

CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/ TRV65E/TRV69E/TRV75/TRV75PK/TRV715

RMT-708/717

SERVICE MANUAL

Self Diagnostics
Supported model

Ver 1.2 1999. 07
with SUPPLEMENT-1
(9-974-038-81)



Photo : CCD-TRV55E
: RMT-708

Handycam Vision™

Video 8 XR
video Hi8 XR

B MECHANISM

US Model
Canadian Model
CCD-TRV75/TRV715

E Model
CCD-TRV3E/TRV23E/TRV45E/
TRV55E/TRV75/TRV75PK

AEP Model
CCD-TRV13E/TRV65E/TRV69E

UK Model
East European Model
North European Model
Russian Model
CCD-TRV13E/TRV65E

Hong Kong Model
CCD-TRV3E/TRV23E/TRV45E/TRV55E

Tourist Model
CCD-TRV3E/TRV55E/TRV75

Australian Model
CCD-TRV3E/TRV23E/TRV45E

Chinese Model
CCD-TRV3E/TRV23E/TRV45E/
TRV55E/TRV65E

SPECIFICATIONS

For MECHANISM ADJUSTMENTS, refer to
the "8mm Video MECHANICAL ADJUSTMENT
MANUAL VII" (9-973-801-11).

Video camera recorder System

Video recording system
CCD-TRV75/TRV75PK/TRV715 : 4
rotary heads (SP/LP independent heads)
CCD-TRV3E/TRV13E/TRV23E/
TRV45E/TRV55E/TRV65E/TRV69E :
2 Rotary heads
Helical scanning FM system
Audio recording system
Rotary heads, FM system
Video signal
CCD-TRV75/TRV75PK/TRV715 :
NTSC color, EIA standards
CCD-TRV3E/TRV13E/TRV23E/
TRV45E/TRV55E/TRV65E/TRV69E :
PAL color CCIR standards
Usable cassette
8mm video format cassette
CCD-TRV3E/TRV13E/TRV23E/
TRV45E/TRV55E : standard 8
CCD-TRV65E/69E/TRV75/TRV75PK/
TRV715 : Hi8 or standard 8
Recording / Playback time
CCD-TRV75/TRV75PK/TRV715 :
(using 120 min. cassette)
SP mode: 2 hours
LP mode: 4 hours
CCD-TRV3E/TRV13E/TRV23E/
TRV45E/TRV55E/TRV65E/TRV69E :
(using 90 min. cassette)
SP mode: 1 hours and 30 minutes
LP mode: 3 hours

Fastforward/rewind time
CCD-TRV75/TRV75PK/TRV715 :
(using 120 min. cassette) Approx. 5 min.
CCD-TRV3E/TRV13E/TRV23E/
TRV45E/TRV55E/TRV65E/TRV69E :
(using 90 min. cassette) Approx. 5 min.
Image device
CCD (Charge Coupled Device)
Viewfinder
Electronic viewfinder
Monochrome
Lens
Combined power zoom lens
Filter diameter 17/16 in. (37 mm)
CCD-TRV13E (AEP,UK) :
16 x (Optical), 32 x (Digital)
CCD-TRV13E (EE,NE,RU) :
16 x (Optical), 160 x (Digital)
CCD-TRV65E (AEP,UK)/TRV75 (US,
CND)/TRV715 :
18 x (Optical), 72 x (Digital)
CCD-TRV23E/TRV45E/TRV55E/
TRV65E (EE,NE,RU,E,AUS,HK,CN)/
TRV75 (E, JE)/TRV75PK :
18 x (Optical), 220 x (Digital)
Focal distance
CCD-TRV3E/13E : 3/16 - 2 5/8 in.
(4.1 - 65.6 mm)
CCD-TRV23E/TRV45E/TRV55E/
TRV65E/TRV69E/TRV75/TRV75PK/
TRV715 : 3/16 - 8 in. (4.1 - 73.8 mm)
When converted to a 35 mm still camera
CCD-TRV3E/TRV13E :
1 9/16 - 24 7/8 in. (39.4 - 630 mm)
CCD-TRV23E :
1 9/16 - 28 in. (39.4 - 709 mm)
CCD-TRV45E/TRV55E/TRV65E/
TRV69E/TRV75/TRV75PK/TRV715 :
1 7/8 - 33 1/2 in. (47.2 - 850 mm)

Color temperature
Auto
Minimum illumination*
* Minimum illumination expresses the
light level a camcorder requires to
produce a picture.
CCD-TRV23E : 0.4 lux (F 1.4)
CCD-TRV3E/13E : 0.4 lux (F1.4)
(*Visible minimum low light 0.2 lux)
* Visible minimum low light expresses
the light level to produce a visible
signal.
CCD-TRV45E/TRV55E/TRV65E/
TRV69E/TRV75/TRV75PK/TRV715 :
0.7 lux (F 1.4)
CCD-TRV23E/TRV45E/TRV55E/
TRV65E/TRV69E/TRV75/TRV75PK/
TRV715 :
0 lux (in NightShot mode)*
* Object invisible for the dark can be
shot with infrared lighting.

Illumination range
CCD-TRV3E/TRV13E/TRV23E :
0.4 lux to 100,000 lux
CCD-TRV45E/TRV55E/TRV65E/
TRV69E/TRV75/TRV75PK/TRV715 :
0.7 lux to 100,000 lux
Recommended illumination
More than 100 lux

LCD screen

Picture
CCD-TRV3E/TRV13E/TRV23E/
TRV65E/TRV69E :
2.5 inches measured diagonally
2 x 1 1/2 in. (50.3 x 37.4 mm)
CCD-TRV45E/TRV55E :
3.5 inches measured diagonally
2 7/8 x 2 in. (72.4 x 50.4 mm)

— Continued on next page —

8 VIDEO CAMERA RECORDER

CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E

Hi8 VIDEO CAMERA RECORDER

CCD-TRV65E/TRV69E/TRV75/TRV75PK/TRV715



SONY®

CCD-TRV75/TRV75PK/TRV715 :
3 inches measured diagonally
2 3/8 x 1 3/4 in. (59.5 x 43.2 mm)
On-screen display
TN LCD/TFT active matrix method
Total dot number
CCD-TRV3E/TRV13E/TRV23E :
61,380 (279 x 220)
CCD-TRV65E/TRV69E :
84,260 (380 x 220)
CCD-TRV45E/TRV55E :
105,380 (479 x 220)
CCD-TRV75/TRV75PK/TRV715 :
89,622 (383 x 234)

Input and output connectors

S video input/output(CCD-TRV65E
(CN)/TRV75/TRV75PK/TRV715 only)
S video output(CCD-TRV65 (AEP,
UK, EE, NE, RU)/TRV69E only)
4-pin mini DIN
Luminance signal :
1 Vp-p, 75 ohms, unbalanced
CCD-TRV75/TRV75PK/TRV715 :
Chrominance signal :
0.286 Vp-p, 75 ohms, unbalanced
CCD-TRV65E (CN) :
Chrominance signal :
0.3 Vp-p, 75 ohms, unbalanced
Video input(CCD-TRV45E/TRV55E/
TRV65E (CN)/TRV75/TRV75PK/
TRV715 only)/output
Phono jack, 1 Vp-p, 75 ohms, unbalanced
Audio input (CCD-TRV45E/TRV55E/
TRV65E (CN)/TRV75/TRV75PK/
TRV715 only)/output
CCD-TRV13E/TRV13E/TRV23E :
Monaural, Phone jack, 327 mV
CCD-TRV45E/TRV55E/TRV69E/
TRV75/TRV75PK/TRV715 : Phono
jacks (2: stereo L and R) 327 mV, (at
output impedance 47 kilohms)
impedance less than 2.2 kilohms
RFU DC OUT
Special minijack, DC 5V
Headphone jack(CCD-TRV45E/
TRV55E/TRV65E/TRV69E/TRV75/
TRV75PK/TRV715 only)
Stereo minijack (ø 3.5 mm)

Earphone jack(CCD-TRV3E/
TRV13E/TRV23E only)
Monaural minijack (ø 3.5 mm)
LANC control jack
Stereo mini-minijack (ø 2.5 mm)
MIC jack
Mini jack, 0.388mV low impedance
with 2.5 to 3.0 V DC, output impedance
6.8 kilohms (ø 3.5 mm)
CCD-TRV3E/TRV13E/TRV23E :
Monaural type
CCD-TRV45E/TRV55E/TRV65E/
TRV69E/TRV75/TRV75PK/TRV715 :
Stereo type
Speaker
Dynamic speaker
Intelligent accessory shoe(CCD-
TRV45E/TRV55E/TRV65E/TRV69E/
TRV75/TRV75PK/TRV715 only)
8-pin connector

General

Power requirements
7.2 V (battery pack)
8.4 V (AC power adaptor)

Average power consumption(when using the battery pack)

During camera recording using
LCD
CCD-TRV3E/TRV13E : 3.1 W
CCD-TRV23E : 3.2 W
CCD-TRV65E/TRV69E : 3.3 W
CCD-TRV45E/TRV55E : 3.5 W
CCD-TRV75/TRV75PK/TRV715 :
3.4 W
Viewfinder
CCD-TRV3E/TRV13E : 2.5 W
CCD-TRV23E/TRV75/TRV75PK/
TRV715 : 2.6 W
CCD-TRV45E/TRV55E/TRV65E/
TRV69E : 2.7 W
Operating temperature
32°F to 104°F(0°C to 40°C)
Storage temperature
-4°F to +140°F(-20°C to +60°C)

Dimensions (Approx.)
CCD-TRV3E/TRV13E/TRV23E/
TRV65E/TRV69E :
4 1/4 x 4 1/4 x 8 1/4 in.
(107 x 107 x 209 mm)(w/h/d)
CCD-TRV45E/TRV55E/TRV75/
TRV75PK/TRV715 :
4 1/2 x 4 3/8 x 8 1/2 in.
(114 x 111 x 214 mm)(w/h/d)
Mass (Approx.)
CCD-TRV3E/TRV13E/TRV23E :
1 lb 15 oz (890 g)
CCD-TRV65E/TRV69E :
1 lb 15 oz (900 g)
CCD-TRV45E/TRV55E :
2 lb 1 oz (950 g)
CCD-TRV75/TRV75PK/TRV715 :
2 lb 1 oz (940 g)
excluding the battery pack, lithium
battery, cassette and shoulder strap
2 lb 3 oz (1 kg)
including the battery pack NP-F330,
lithium battery CR2025, cassette and
shoulder strap
Microphone
CCD-TRV3E/TRV13E/TRV23E :
Monaural type
CCD-TRV45E/TRV55E/TRV65E/
TRV69E/TRV75/TRV75PK/TRV715 :
Stereo type
Supplied accessories
See page 4.

AC power adaptor

Power requirements
100 -240 V AC, 50/60 Hz
Power consumption
23 W
Output voltage
DC OUT: 8.4 V, 1.5 A in operating
mode
Operating temperature
32°F to 104°F(0°C to 40°C)
Storage temperature
-4°F to +140°F(-20°C to +60°C)
Dimensions (Approx.)
5 x 1 9/16 x 2 1/2 in. (125 x 39 x 62
mm)(w/h/d) excluding projecting parts

Mass (Approx.)
9.8 oz (280 g) excluding power cord
(Main lead)

Design and specifications are subject to
change without notice.

- Abbreviation
CND : Canadian Model
EE : East European Model
NE : North European Model
RU : Russian Model
CN : Chinese Model
HK : Hong Kong Model
AUS : Australian Model
JE : Tourist Model

SAFETY CHECK-OUT

After correcting the original service problem, perform the following
safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered
connections. Check the entire board surface for solder splashes
and bridges.
2. Check the interboard wiring to ensure that no wires are “pinched”
or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors,
that were installed during a previous repair. Point them out to
the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs
of deterioration. Point them out to the customer and recommend
their replacement.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK $\triangle$ OR DOTTED LINE WITH
MARK $\triangle$ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS
LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE
COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS
APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS
PUBLISHED BY SONY.

5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit board Repairing
 - Keep the temperature of the soldering iron around 270°C during
repairing.
 - Do not touch the soldering iron on the same conductor of the
circuit board (within 3 times).
 - Be careful not to apply force on the conductor when soldering
or unsoldering.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE $\triangle$ SUR LES
DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT
CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE
REMPLENER CES COMPOSANTS QUE PAR DES PIÈCES SONY
DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU
DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

Table for difference of function

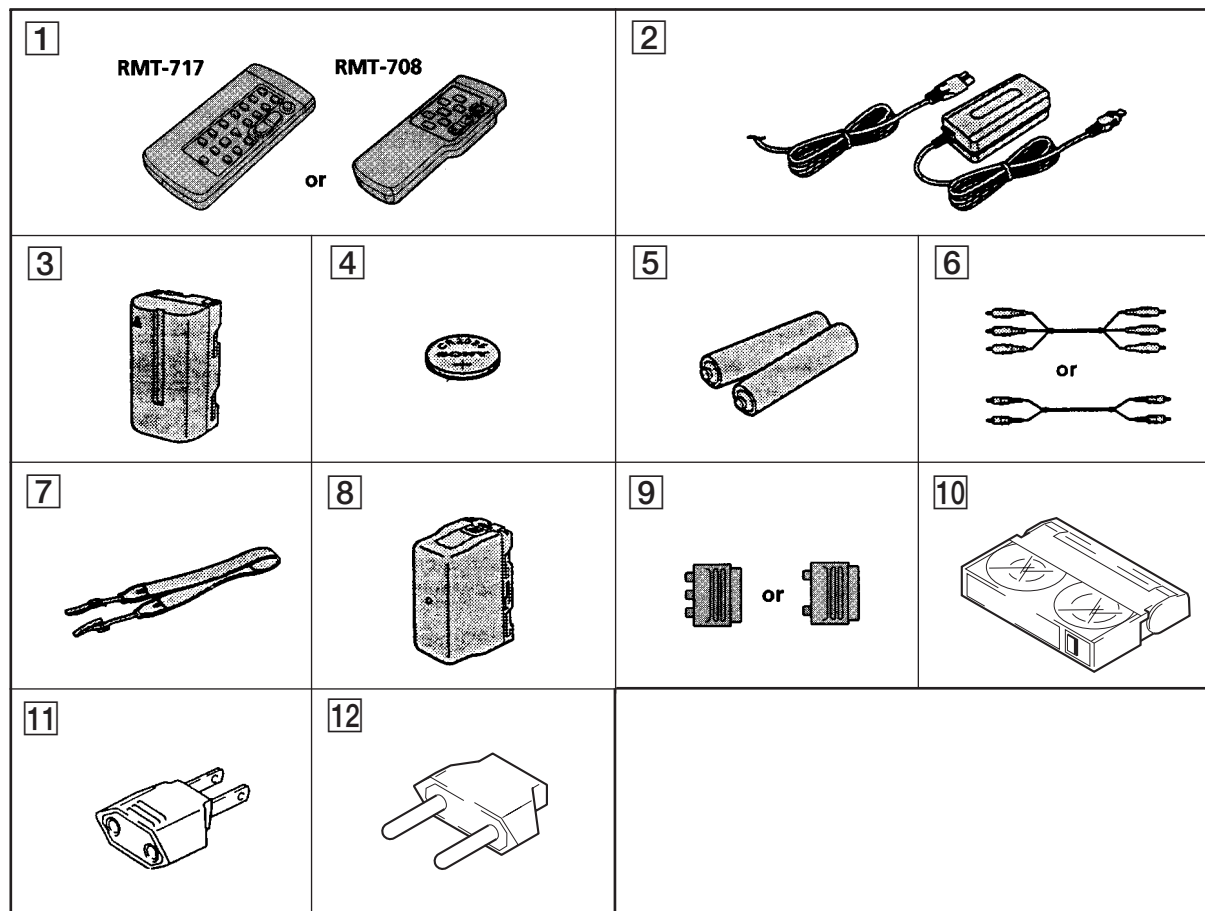
Model	CCD-TRV3E	CCD-TRV13E	CCD-TRV23E	CCD-TRV45E	CCD-TRV55E	CCD-TRV65E		CCD-TRV69E	CCD-TRV75	CCD-TRV75/ TRV75PK	CCD-TRV715	Remark
Destination	E,AUS,HK, CN,JE	AEP,UK,EE, NE,RU	E,HK,AUS, CN	E,HK,AUS, CN	E,HK,CN, JE	AEP,UK,EE, NE,RU	AEP,UK,EE, CN	AEP	US,CND	E,JE/E	US,CND	
Classification	TYPE A											
Color System	PAL	PAL	PAL	PAL	PAL	PAL	PAL	PAL	NTSC	NTSC	NTSC	
Remote commander	X	X	RMT-708	RMT-708	RMT-708	RMT-708	RMT-708	RMT-717	RMT-708	RMT-708	RMT-708	
Hi8	X	X	X	X	X	X	X	X	X	X	X	
Standard 8	O	O	O	O	O	O	O	O	O	O	O	
Lens	16X	16X	18X	18X	18X	18X	18X	18X	18X	18X	18X	16X : LSV601A, 18X : LSV600A
	100X	32X (Note 1)	220X	220X	220X	72X(Note 2)	220X	72X	72X	220X	72X	
CCD	510H	510H	510H	760H	760H	760H	760H	760H	760H	760H	760H	
Night shot	X	X	O	O	O	O	O	O	O	O	O	O : LSV600A
Steady shot	X	X	X	O	O	O	O	O	O	O	O	O : with SE-66/67 board SE451,452,IC451
3heads/3heads	3heads	3heads	3heads	3heads	3heads	3heads	3heads	3heads	5heads	5heads	5heads	
Audio System	Mono	Mono	Mono	Stereo	Stereo	Stereo	Stereo	Stereo	Stereo	Stereo	Stereo	
TBC&DNR	X	X	X	X	O	O	O	O	O	O	O	O : with VC-195 board IC204
VTR REC	X	X	X	X	X	X	X	X	O	O	O	O : with FK-8500 block S005,007
Laser Link	X	X	X	X	X	X	X	X	O	O	O	O : with VC-195 board IC751
Photo mode	X	X	X	X	O	X	X	X	X	X	X	O : VC-195 board IC204 is CXD3131
Digital effect	X	X	O	X	O	X	X	X	X	X	X	O : VC-195 board IC204 is CXD3131
LCD	2.5 inch	2.5 inch	2.5 inch	3.5 inch	3.5 inch	2.5 inch	2.5 inch	2.5 inch	3 inch	3 inch	3 inch	2.5 inch : PD-92 board, 3/3.5 inch : PD-93 board
Monitor IN	X	X	X	O	O	O	O	O	O	O	O	O : with VC-195 board X151
Intelligent Accessory Shoe	X	X	X	O	O	O	O	O	O	O	O	O : with VC-195 board CN909
Normal Accessory Shoe	X	X	O	X	X	X	X	X	X	X	X	
Time code	X	X	X	X	X	X	X	X	X	X	X	O : with VC-195 board IC701
Display window indicator backlight	X	X	X	O	O	O	O	O	O	O	O	O : with CF-50/51 board Q003,005
Manual Focus	X	X	O	O	O	O	O	O	O	O	O	O : with MF-8500/MR-8500

Note1 : EE,NE,RU model is 160X
Note2 : EE,NE,RU model is 220X

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Supplied accessories



1 Wireless Remote Commander (1)

RMT-717 : CCD-TRV69E
RMT-708 : Except CCD-TRV69E

2 AC-L10A/L10B/L10C AC power adaptor

3 NP-F330 Battery pack (1)

4 CR2025 Lithium Battery (1)

The lithium battery is already installed in your camcorder.

5 Size AA (R6) battery for Remote Commander (2)

6 A / V connecting cable (1)

Stereo : Except CCD-TRV3E/TRV13E/TRV23E
Monaural : CCD-TRV3E/TRV13E/TRV23E

7 Shoulder strap (1)

8 Battery case (1)

CCD-TRV75 : US, CND

9 21 pin adaptor (1)

VMC-91 : CCD-TRV65E : AEP, EE, NE, RU, UK/TRV69E
VMC-89 : CCD-TRV13E

10 8mm tape

CCD-TRV75 : US/TRV715 : US

11 2 pin conversion adaptor (1)

CCD-TRV3E : E, HK/TRV23E : E, HK/TRV45E : E, HK/
TRV55E : E, HK/TRV75 : E/TRV75PK

12 2 pin conversion adaptor (1)

CCD-TRV3E : JE/TRV55E : JE/TRV75 : JE

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SERVICE NOTE

1. POWER SUPPLY DURING REPAIRS

In this unit, about 10 seconds after power is supplied (8.4V) to the battery terminal using the service power cord (J-6082-223-A), the power is shut off so that the unit cannot operate. The following three methods are available to prevent this. Take note of which to use during repairs.

Method 1.

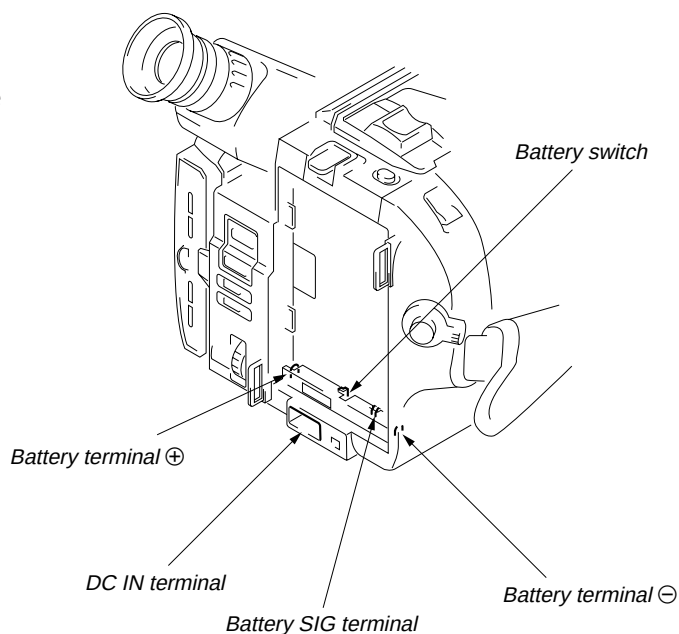
Connect the servicing remote commander RM-95 (J-6082-053-B) to the LANC jack, and set the remote commander switch to the "ADJ" side.

Method 2.

Press the battery switch of the battery terminal using adhesive tape, etc.

Method 3.

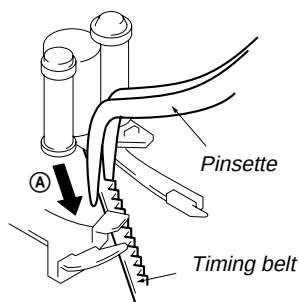
Use the DC IN terminal. (Use the AC power adaptor.)



2. TO TAKE OUT A CASSETTE WHEN NOT EJECT (FORCE EJECT)

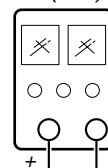
- ① Refer to 2-1-1. to remove the front panel assembly.
- ② Refer to 2-1-2. to remove the cabinet (R) assembly.
- ③ Refer to 2-1-11. to remove the battery panel assembly.
- ④ Refer to 2-1-13. to remove the cabinet (L) assembly.
- ⑤ Add +5V from the DC POWER SUPPLY and unload with a pressing the cassette lid.

- ⑥ Pull the timing belt in the direction of arrow A with a pinsette while pressing the cassette lid (take care not to damage) to adjust the bending of a tape.

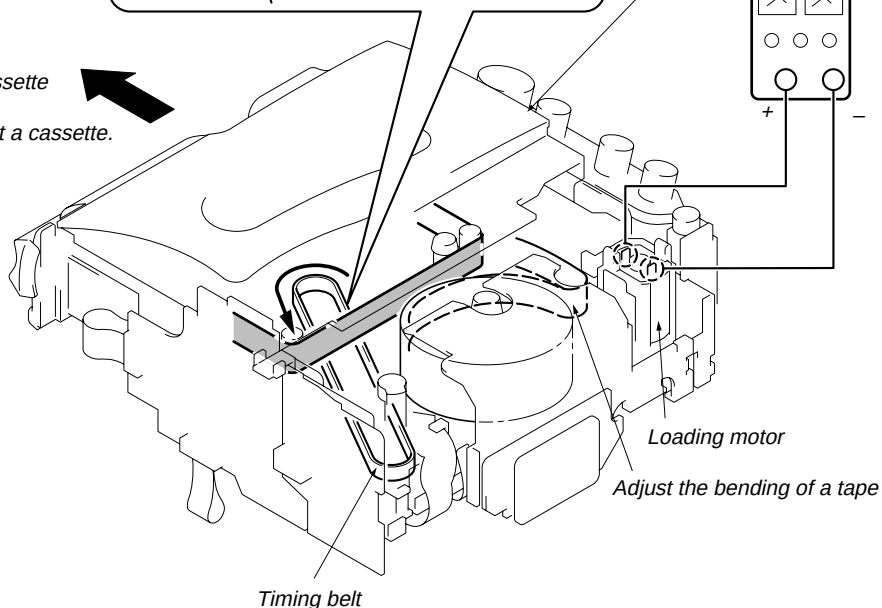


Press the cassette lid not to rise the cassette compartment

[DC power supply]
(+5V)



- ⑦ Let go your hold the cassette lid and rise the cassette compartment to take out a cassette.



SELF-DIAGNOSIS FUNCTION

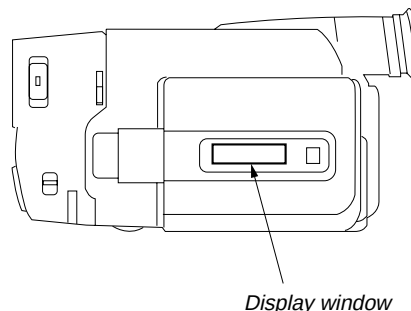
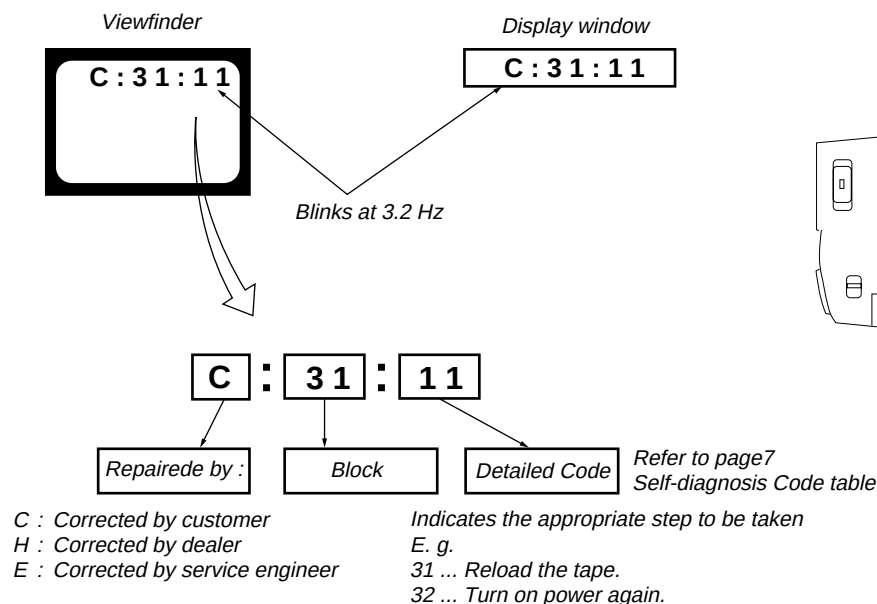
1. Self-diagnosis Function

When problems occur while the unit is operating, the self-diagnosis function starts working, and displays on the viewfinder or Display window what to do. This function consists of two display; self-diagnosis display and service mode display.

Details of the self-diagnosis functions are provided in the Instruction manual.

2. Self-diagnosis display

When problems occur while the unit is operating, the counter of the viewfinder or Display window shows a 4-digit display consisting of an alphabet and numbers, which blinks at 3.2 Hz. This 5-character display indicates the “repaired by:”, “block” in which the problem occurred, and “detailed code” of the problem.

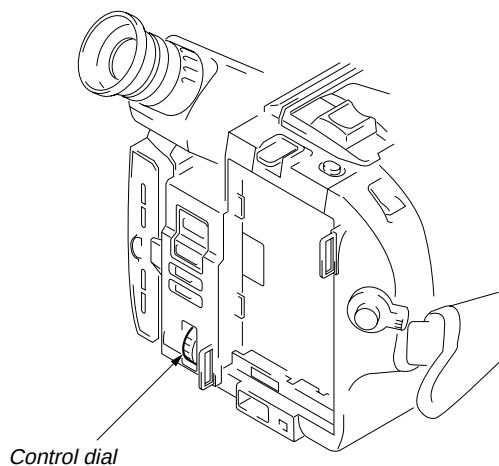
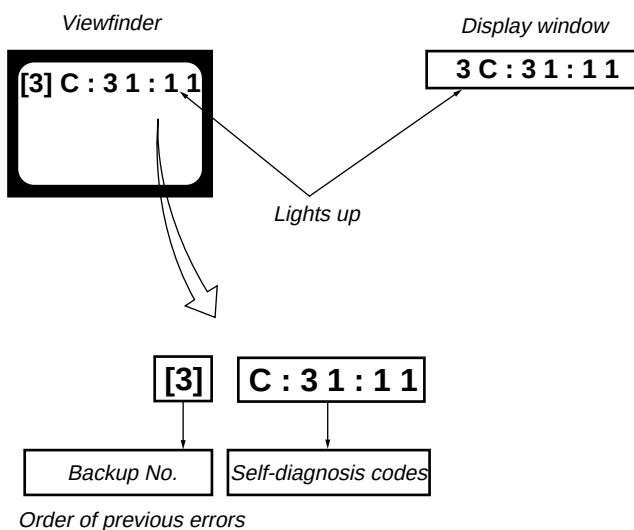


3. Service Mode Display

The service mode display shows up to six self-diagnosis codes shown in the past.

3-1. Display Method

While pressing the “STOP” key, set the switch from OFF to “VTR or PLAYER”, and continue pressing the “STOP” key for 5 seconds continuously. The service mode will be displayed, and the counter will show the backup No. and the 5-character self-diagnosis codes.



3-2. Switching of Backup No.

By rotating the control dial, past self-diagnosis codes will be shown in order. The backup No. in the [] indicates the order in which the problem occurred. (If the number of problems which occurred is less than 6, only the number of problems which occurred will be shown.)

- | | |
|----------------------------|------------------------------|
| [1] : Occurred first time | [4] : Occurred fourth time |
| [2] : Occurred second time | [5] : Occurred fifth time |
| [3] : Occurred third time | [6] : Occurred the last time |

3-3. End of Display

Turning OFF the power supply will end the service mode display.

Note: The self-diagnosis display data will be backed up by the coin-type lithium battery. When this coin-type lithium battery is disconnected, the self-diagnosis data will be lost by initialization.

4. Self-diagnosis Code Table

Repaired by:	Self-diagnosis Code				Symptom/State	Correction
	Block	Function	Detailed	Code		
C	2	1	0	0	Condensation.	Remove the cassette, and insert it again after one hour.
C	2	2	0	0	Video head is dirty.	Clean with the optional cleaning cassette.
C	2	3	0	0	Non-standard battery is used.	Use the InfoLITHIUM battery.
C	3	1	1	0	LOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	1	1	UNLOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	2	0	T reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3	1	2	1	S reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3	1	2	2	T reel fault	Load the tape again, and perform operations from the beginning.
C	3	1	2	3	S reel fault	Load the tape again, and perform operations from the beginning.
C	3	1	3	0	FG fault when starting capstan	Load the tape again, and perform operations from the beginning.
C	3	1	3	1	FG fault during normal capstan operations	Load the tape again, and perform operations from the beginning.
C	3	1	4	0	FG fault when starting drum	Load the tape again, and perform operations from the beginning.
C	3	1	4	1	PG fault when starting drum	Load the tape again, and perform operations from the beginning.
C	3	1	4	2	FG fault during normal drum operations	Load the tape again, and perform operations from the beginning.
C	3	1	4	3	PG fault during normal drum operations	Load the tape again, and perform operations from the beginning.
C	3	1	4	4	Phase fault during normal drum operations	Load the tape again, and perform operations from the beginning.
C	3	2	1	0	LOAD direction loading motor time-out	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	1	1	UNLOAD direction loading motor time-out	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	0	T reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	1	S reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	2	T reel fault	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	3	S reel fault	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	3	0	FG fault when starting capstan	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	3	1	FG fault during normal capstan operations	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	0	FG fault when starting drum	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	1	PG fault when starting drum	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	2	FG fault during normal drum operations	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	3	PG fault during normal drum operations	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	4	Phase fault during normal drum operations	Remove the battery or power cable, connect, and perform operations from the beginning.
E	6	1	0	0	Difficult to adjust focus (Cannot initialize focus.)	Inspect the lens block focus reset sensor (Pin ①⑨ of CN551 of VC-195 board) when focusing is performed when the focus dial is rotated in the focus manual mode and the focus motor drive circuit (IC552 of VC-195 board) when the focusing is not performed. Note : Use the remote commander RM-95 only for the model without the focus dial.
E	6	1	1	0	Zoom operations fault (Cannot initialize zoom lens.)	Inspect the lens block zoom reset sensor (Pin ②① of CN551 of VC-195 board) when zooming is performed when the zoom lens is operated and the zoom motor drive circuit (IC552 of VC195 board) when zooming is not performed.
E	6	2	0	0	Handshake correction function does not work well.(With pitch angular velocity sensor output stopped)	Inspect pitch angular velocity sensor (SE451 of SE-66/67 board) peripheral circuits.
E	6	2	0	1	Handshake correction function does not work well.(With yaw angular velocity sensor output stopped)	Inspect yaw angular velocity sensor (SE452 of SE-66/67 board) peripheral circuits.

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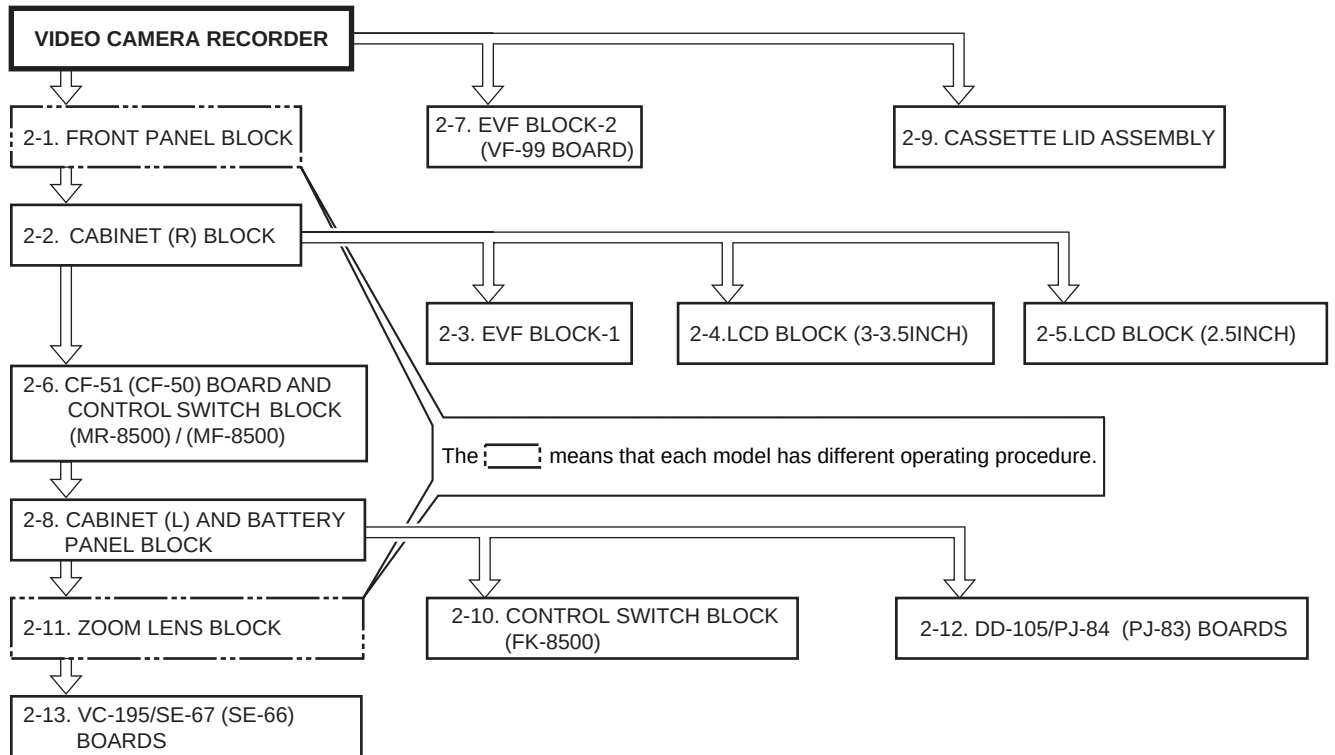
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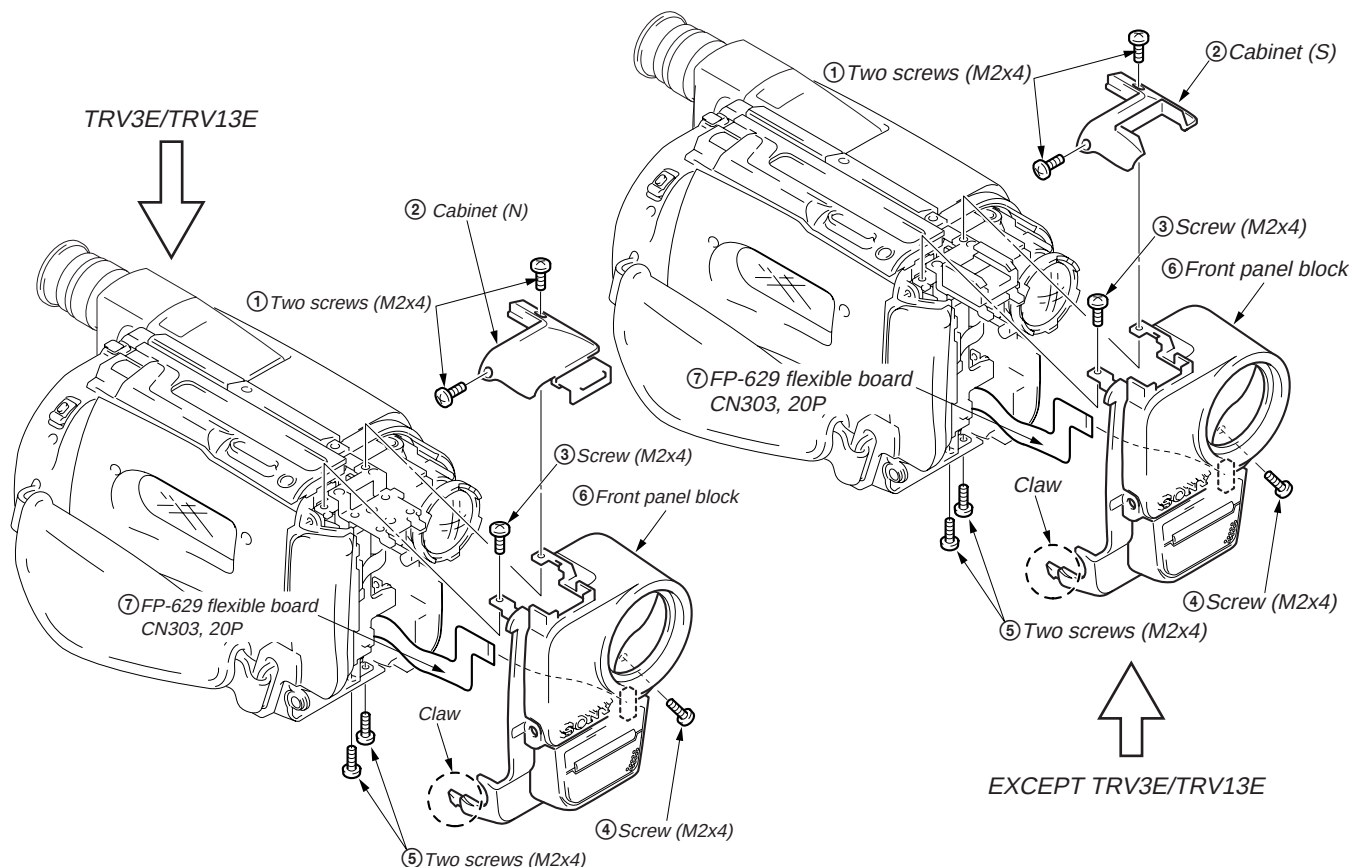
SECTION 2 DISASSEMBLY

The equipment can be removed using the following procedure.

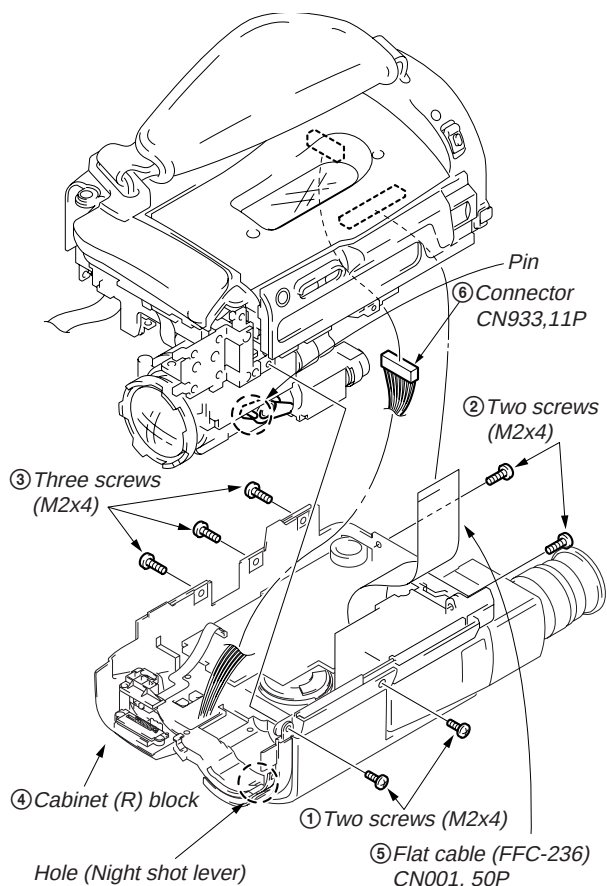


NOTE : Follow the disassembly procedure in the numerical order given.

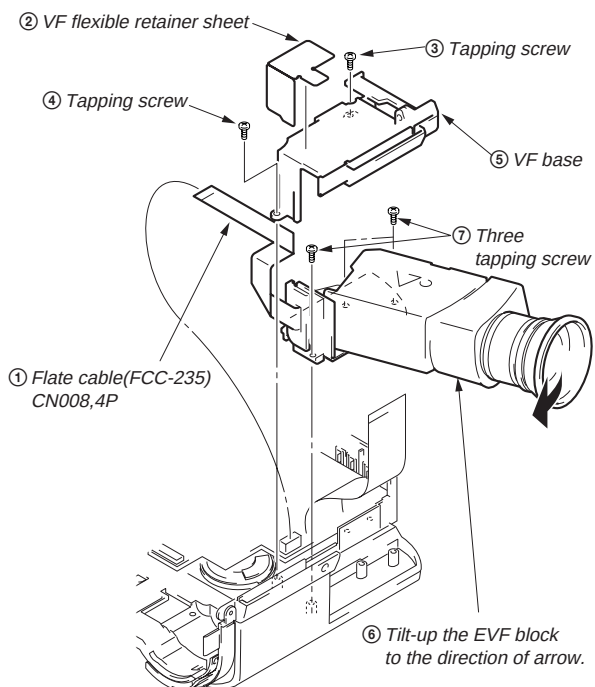
2-1. REMOVAL OF FRONT PANEL BLOCK



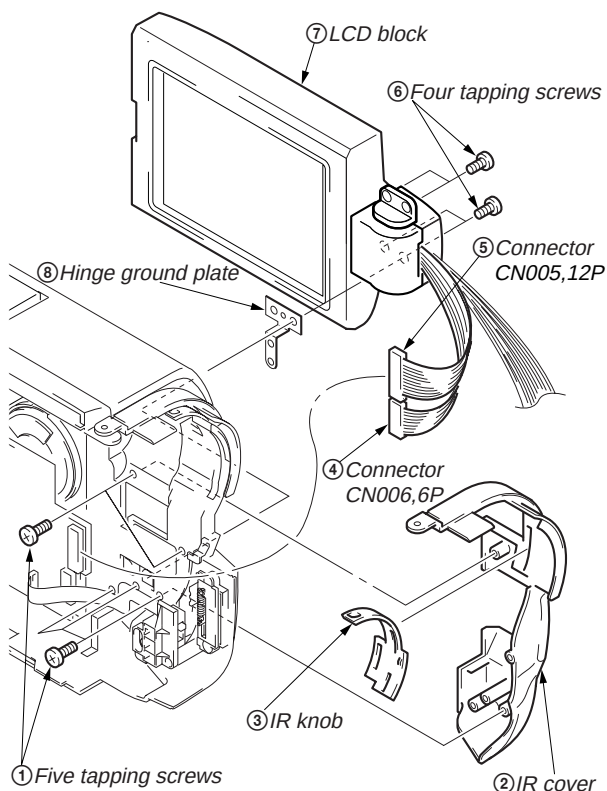
2-2. REMOVAL OF CABINET (R) BLOCK



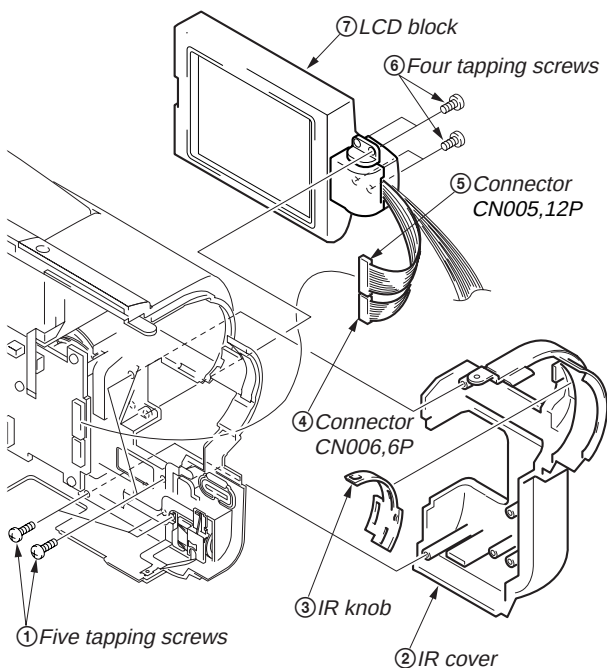
2-3. REMOVAL OF EVF BLOCK-1



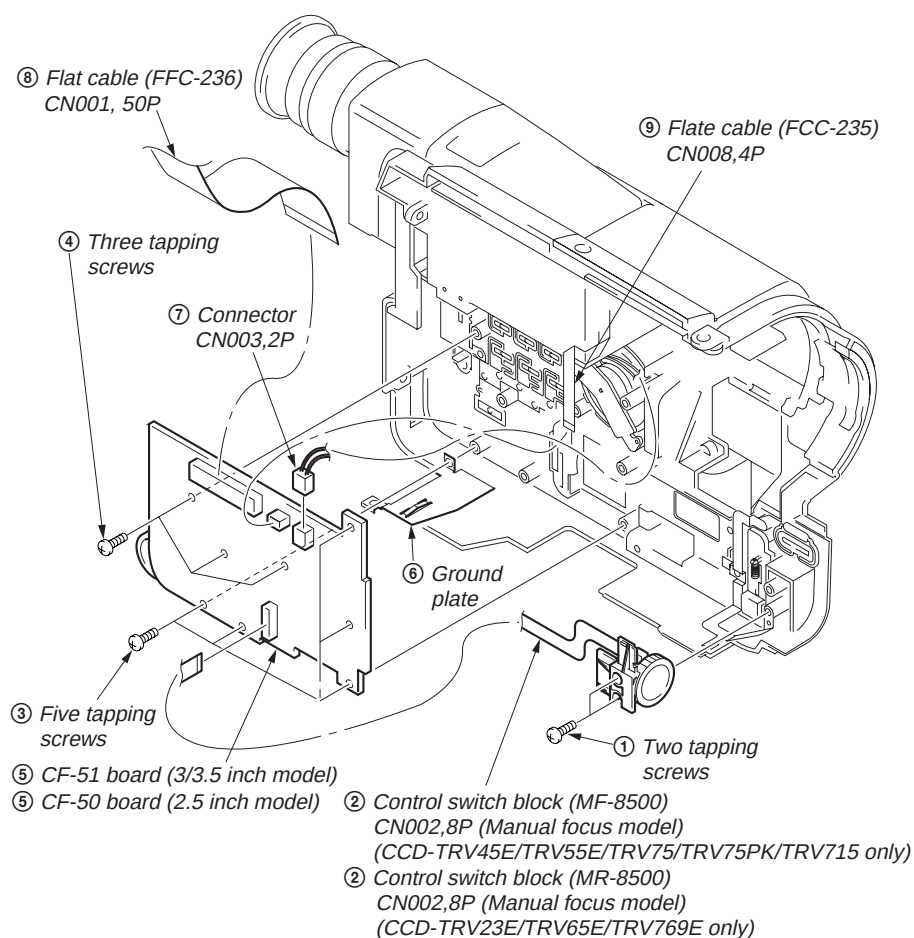
2-4. REMOVAL OF LCD BLOCK (3/3.5 INCH)



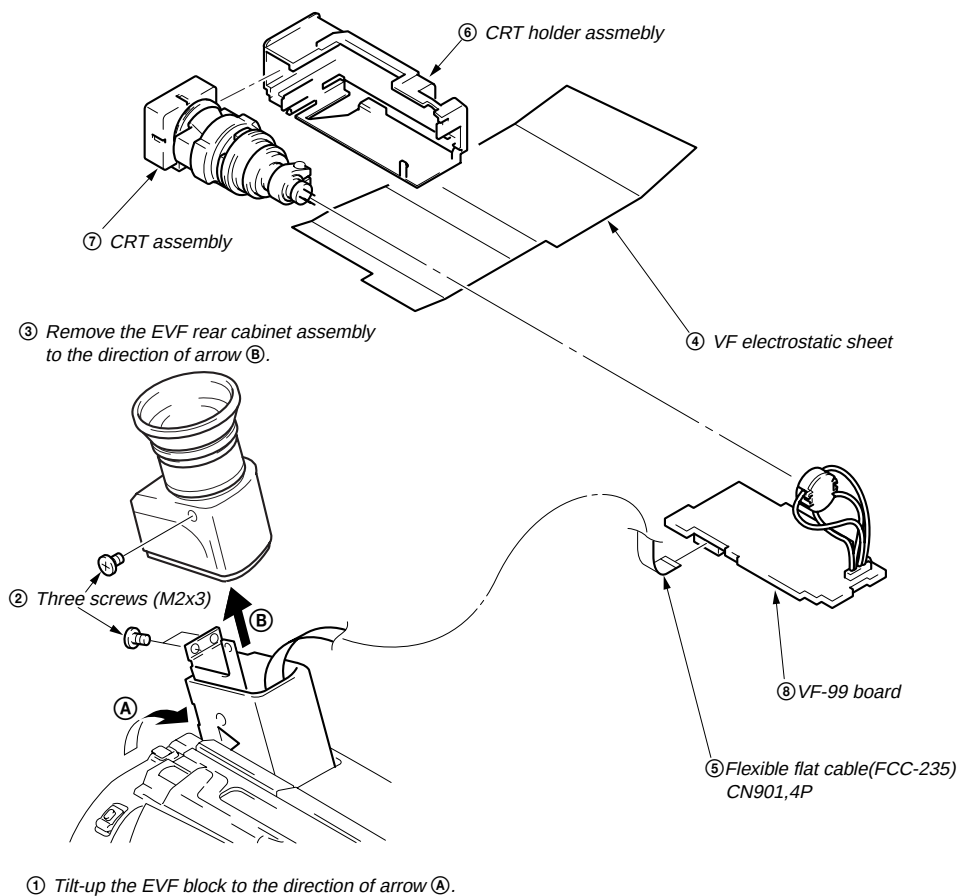
2-5. REMOVAL OF LCD BLOCK (2.5 INCH)



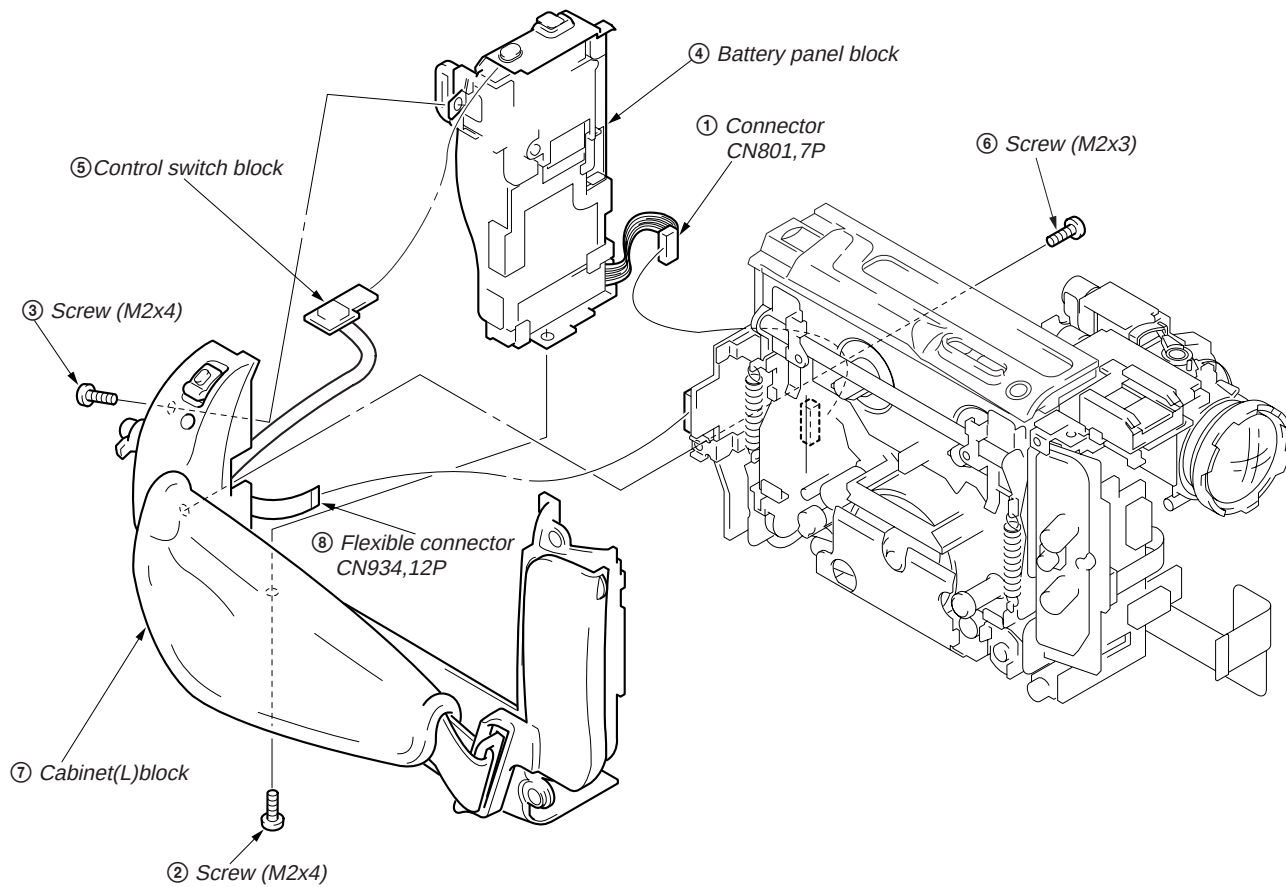
2-6. REMOVAL OF CF-51 (CF-50) BOARD AND CONTOROL SWITCH BLOCK (MR-8500)/(MF- 8500)



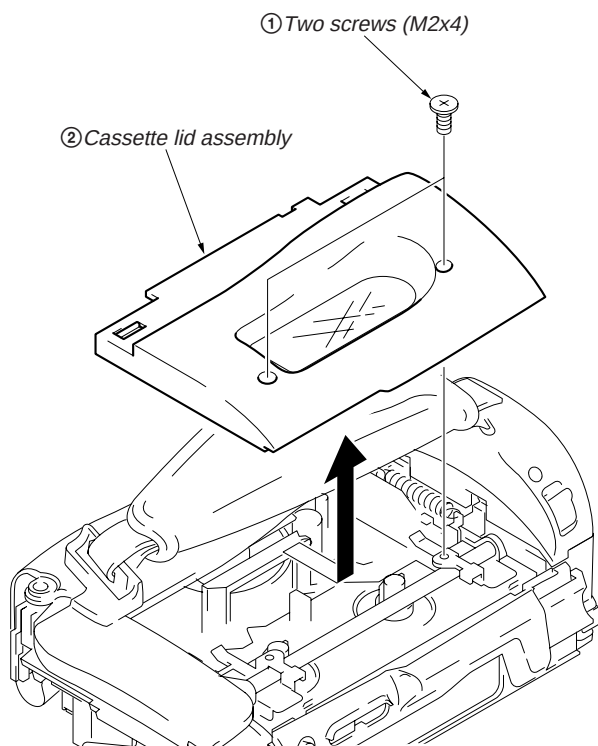
2-7. REMOVAL OF EVF BLOCK-2



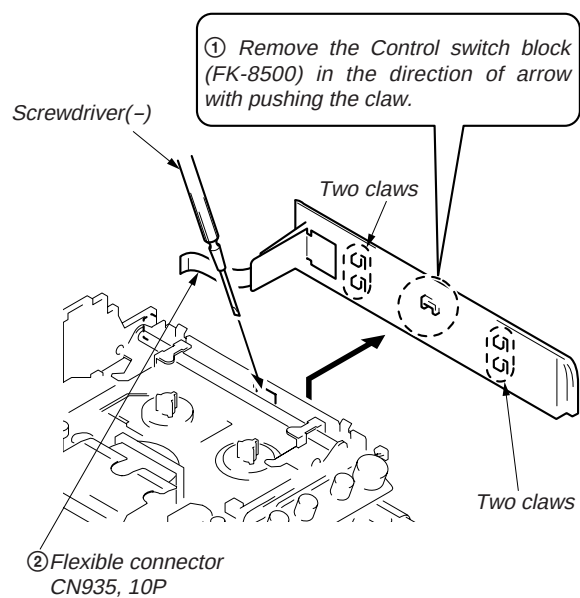
2-8. REMOVAL OF CABINET (L) BLOCK AND BATTERY PANEL BLOCK



2-9. REMOVAL OF CASSETTE LID ASSEMBLY

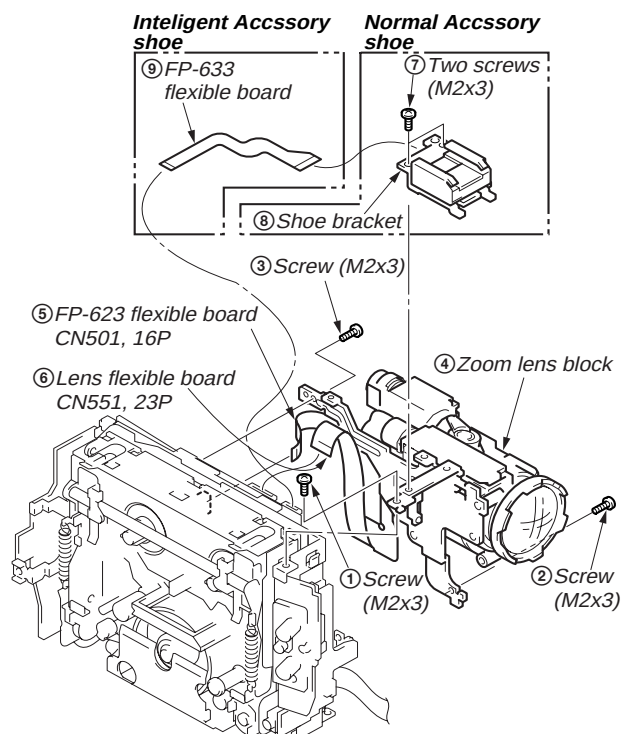


2-10. REMOVAL OF CONTROL SWITCH BLOCK (FK-8500)

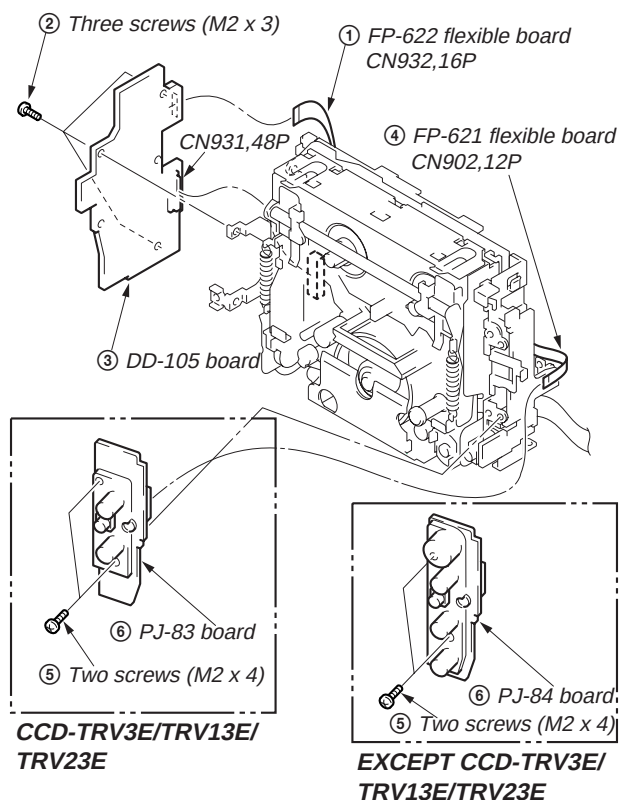


2-11. REMOVAL OF ZOOM LENS BLOCK

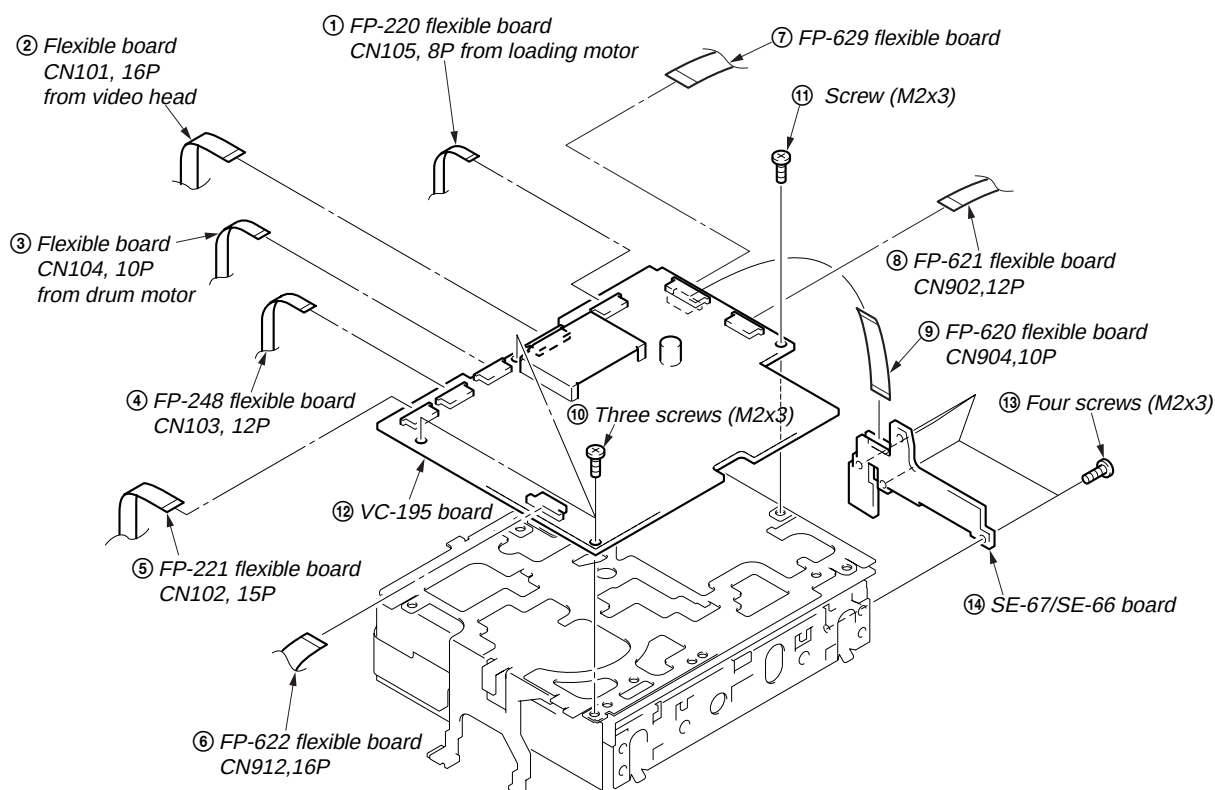
Normal Accessory shoe : CCD-TRV23E
 Intelligent Accessory shoe : CCD-TRV45E/
 TRV55E/TRV65E/TRV69E/TRV75/TRV75PK/
 TRV715



2-12. REMOVAL OF DD-105 BOARD AND PJ-84 (PJ-83) BOARD

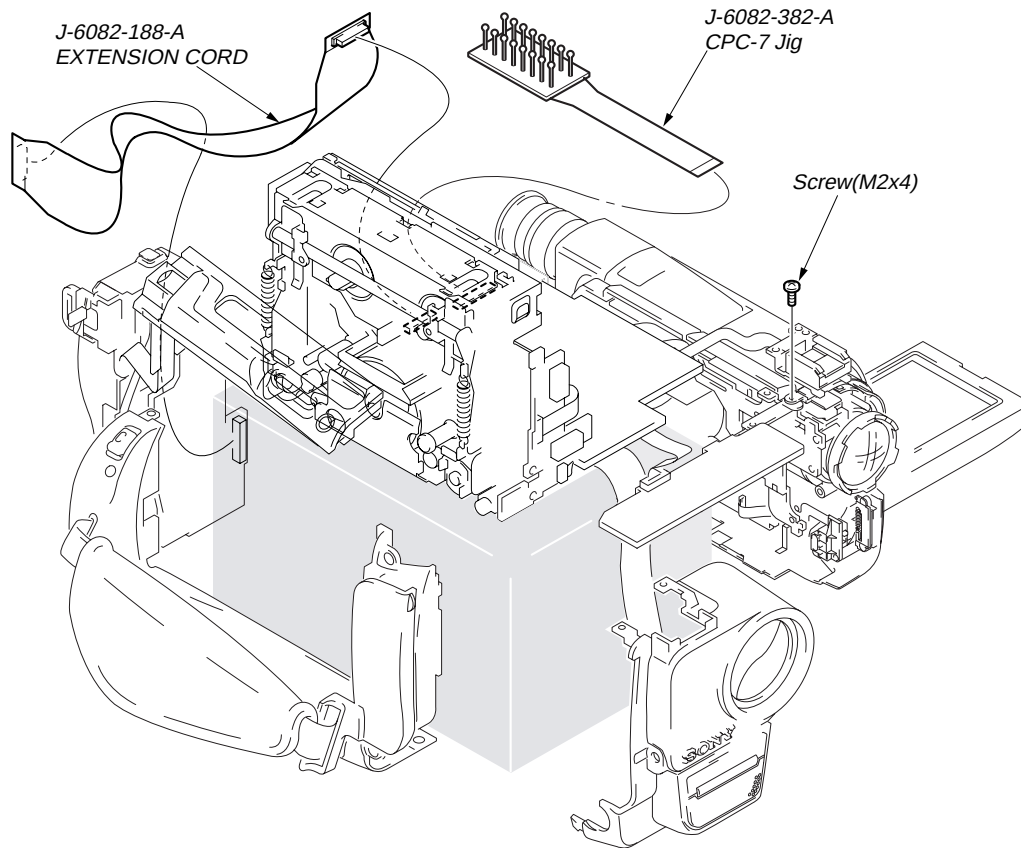


2-13. REMOVAL OF VC-195 AND SE-67 (SE-66) BOARD



2-14. SERVICE POSITION

PREPARATION; Refer to the previous section “DISASSEMBLY”, and connect as shown in the figure after each parts has been removed.



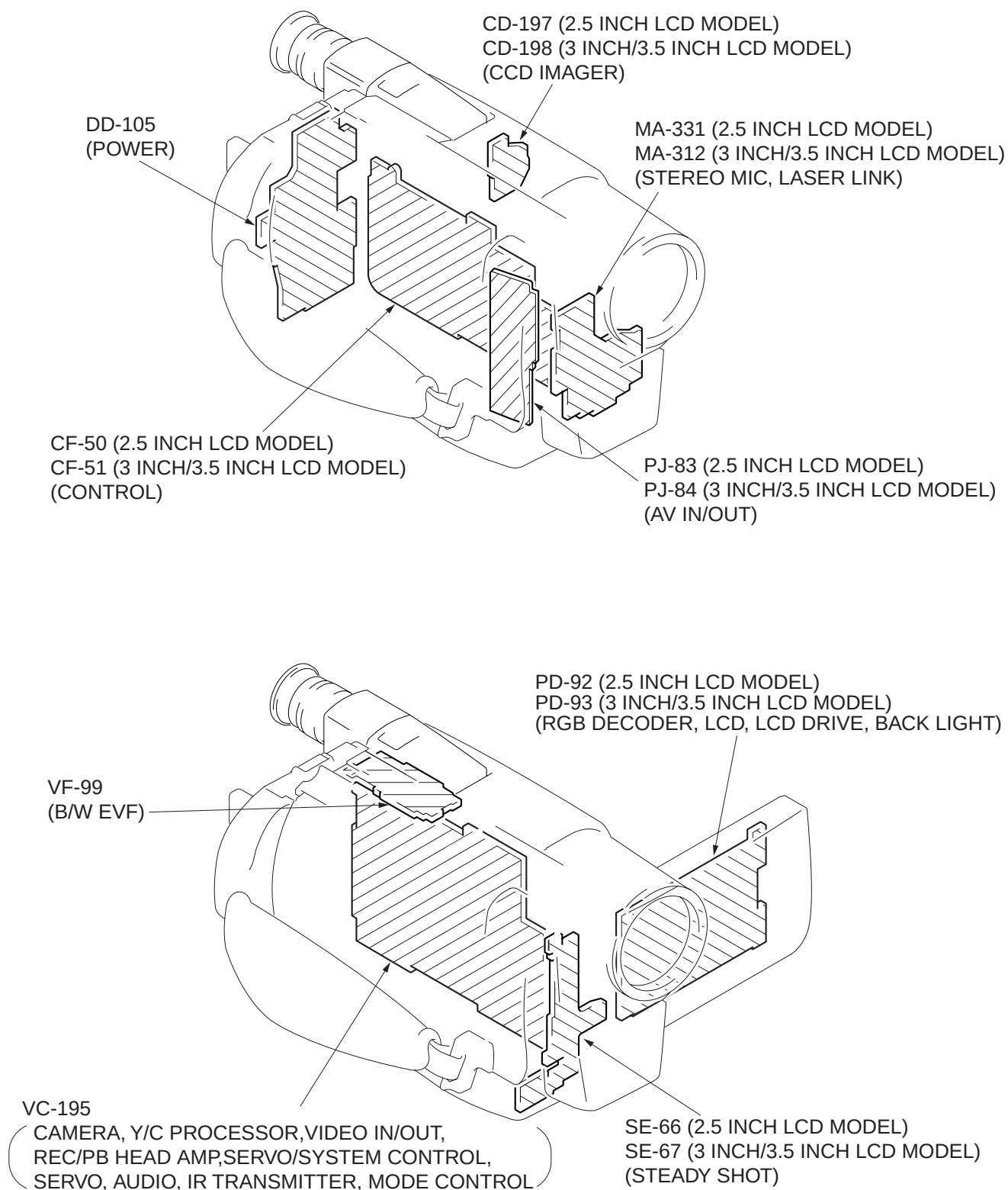
2-15. CIRCUIT BOARDS LOCATION

2.5 INCH LCD MODEL : CCD-TRV3E/TRV13E/TRV23E/

TRV65E/TRV69E

3 INCH LCD MODEL : CCD-TRV75/TRV75PK/TRV715

3.5 INCH LCD MODEL : CCD-TRV45E/TRV55E

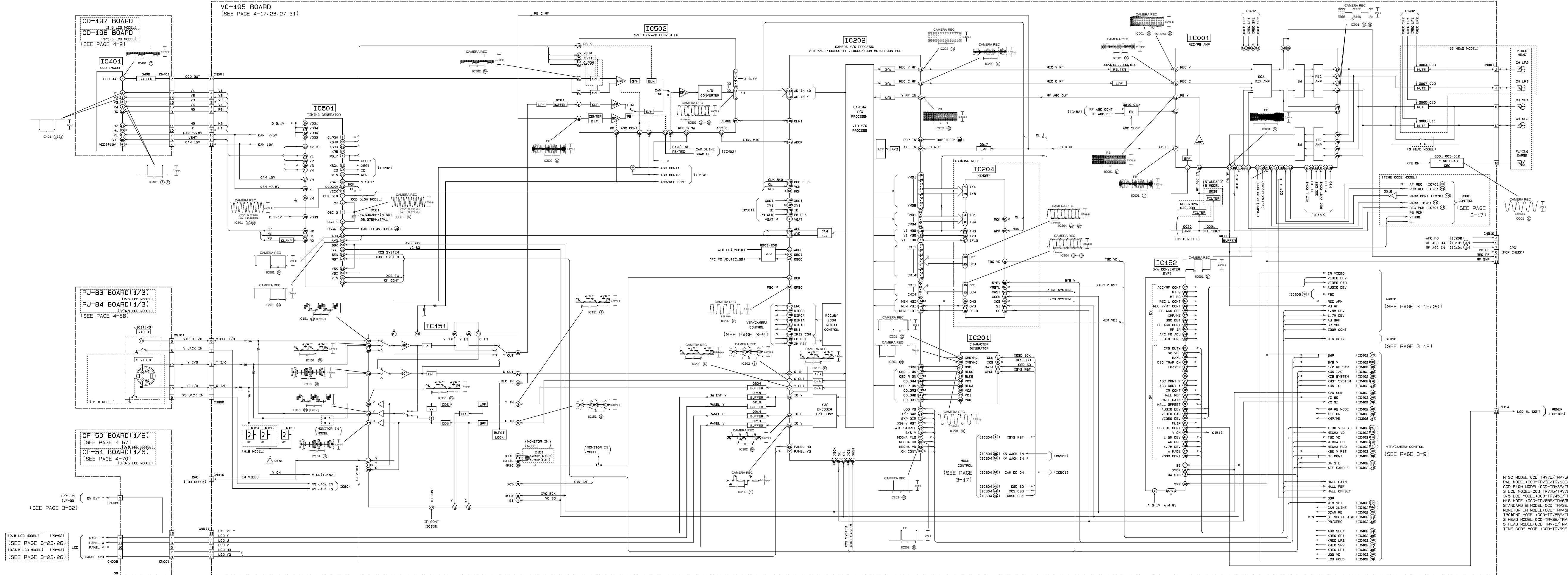


3-1. OVERALL BLOCK DIAGRAM

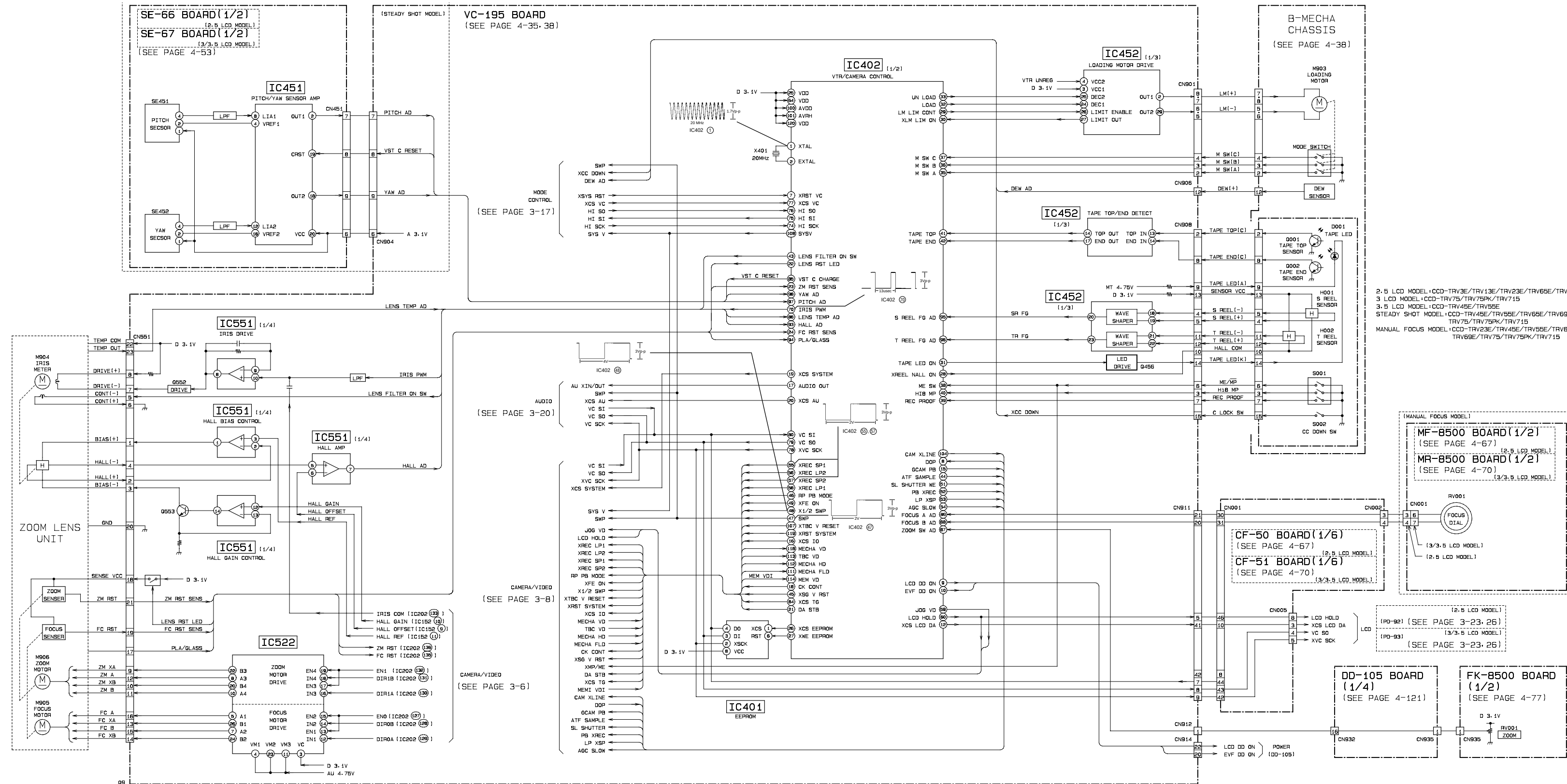


CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/TRV65E/
TRV69E/TRV75E/TRV75PK/TRV715

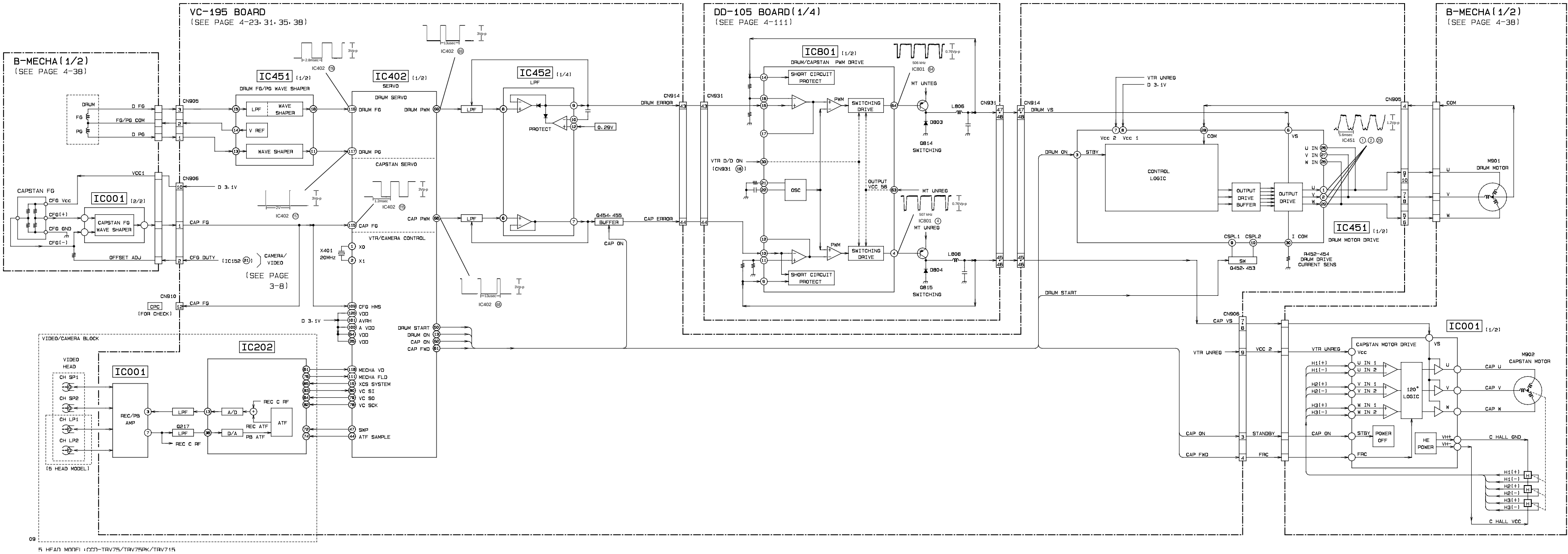
3-2. CAMERA/VIDEO 1 BLOCK DIAGRAM



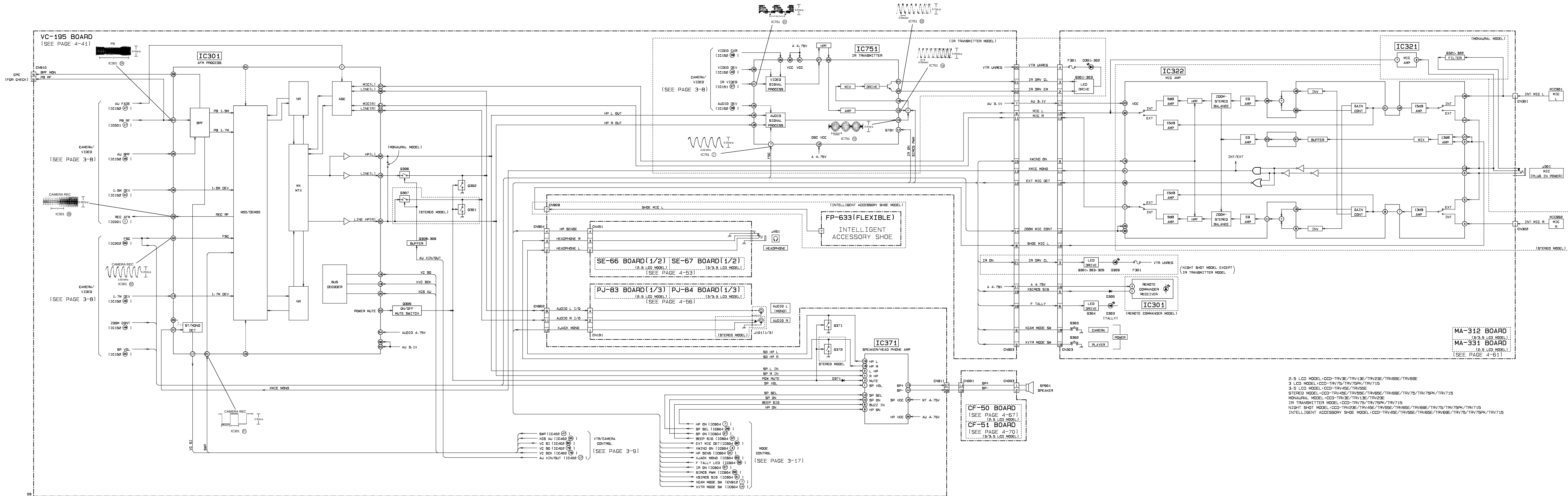
3-3. VTR/CAMERA CONTROL BLOCK DIAGRAM



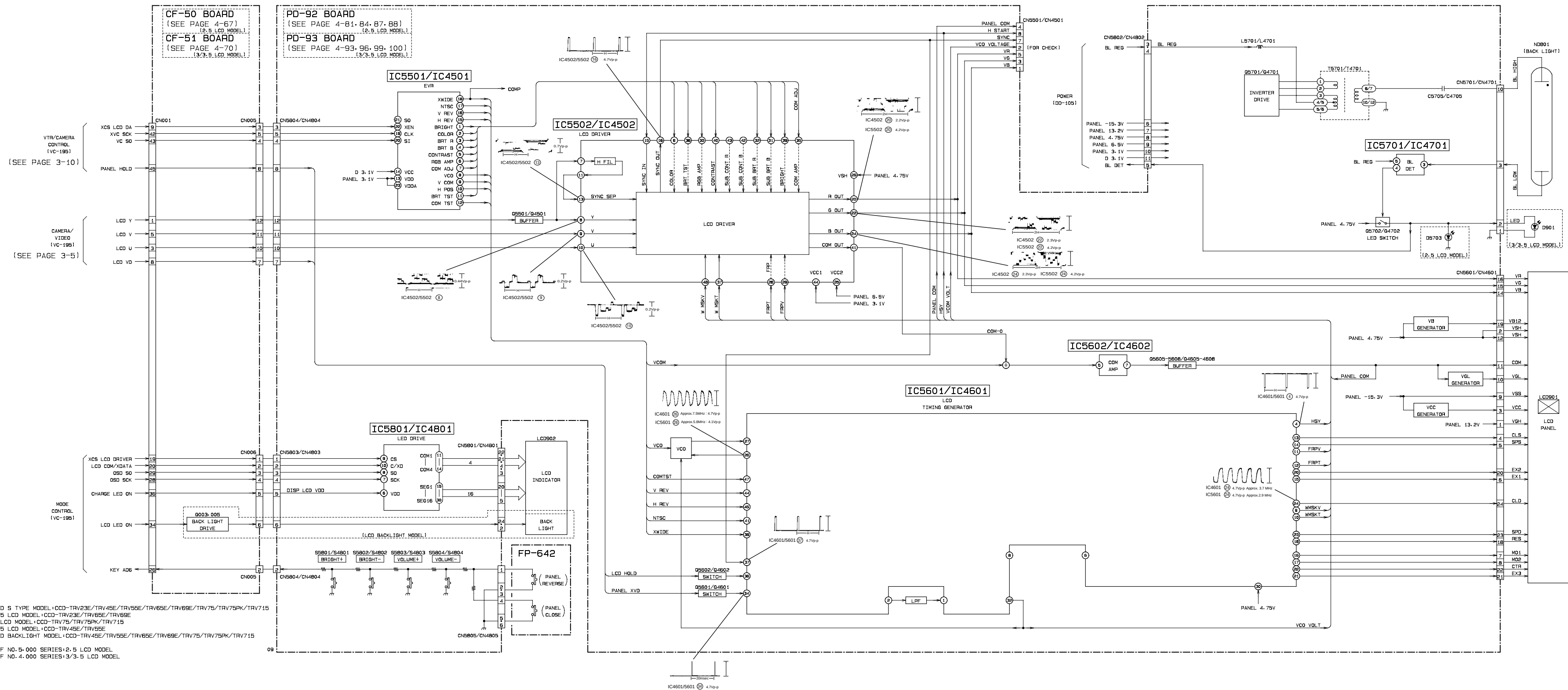
3-4. SERVO BLOCK DIAGRAM



3-6. AUDIO BLOCK DIAGRAM

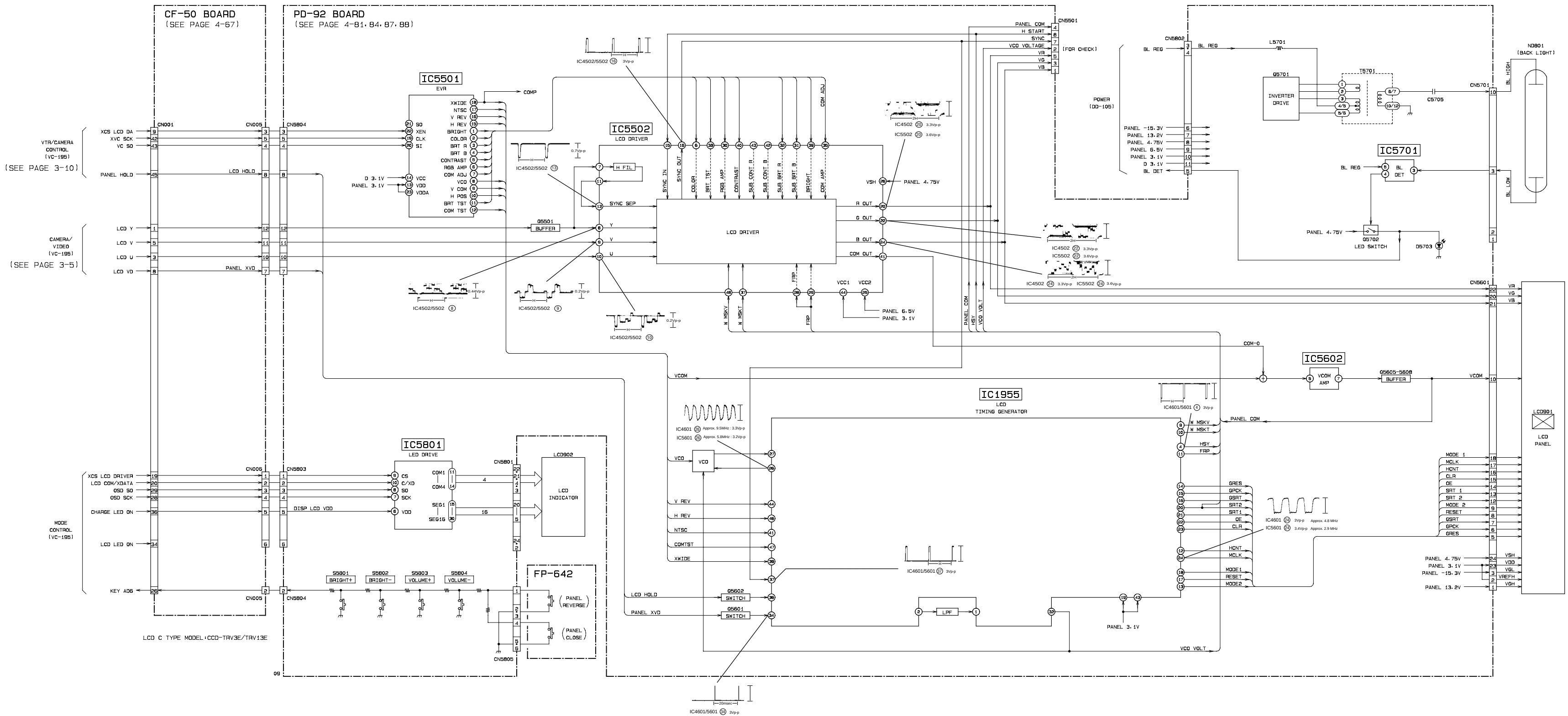


3-7. LCD (CCD-TRV23E/TRV45E/TRV55E/TRV65E/TRV69E/TRV75/TRV75PK/TRV715) BLOCK DIAGRAM

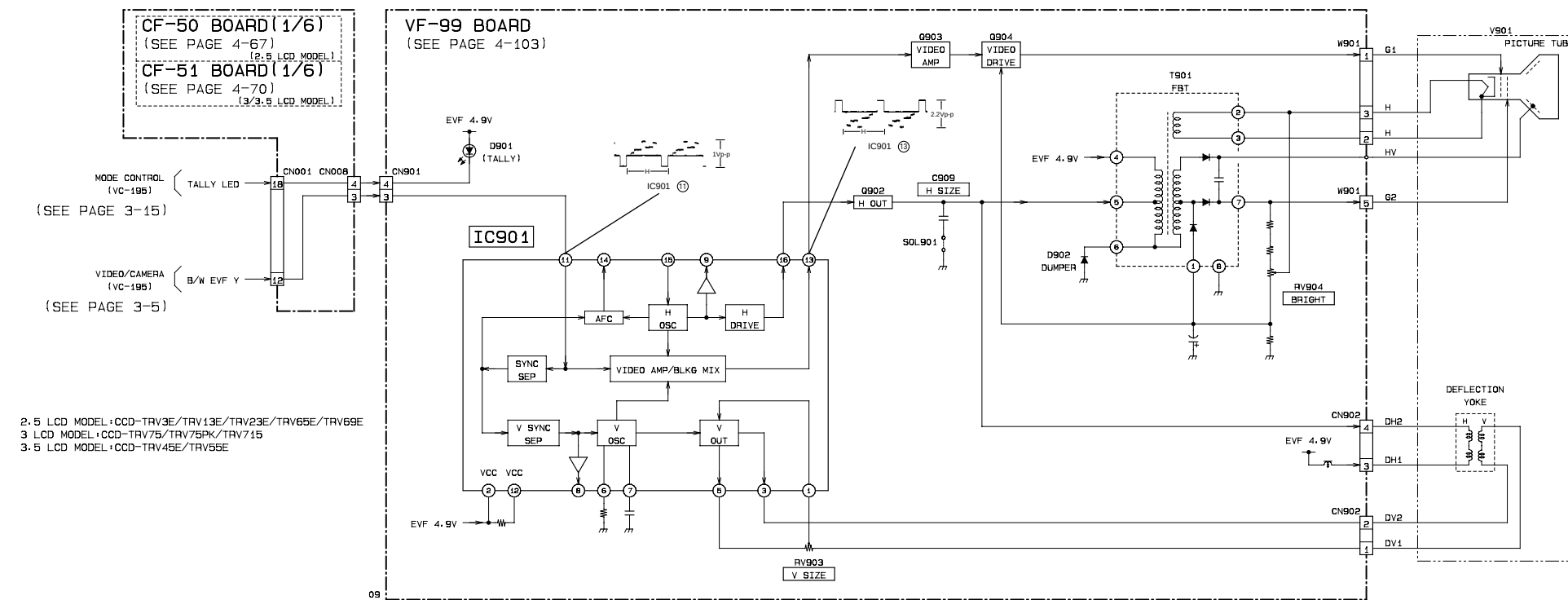


**CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/TRV65E/
TRV69E/TRV75/TRV75PK/TRV715**

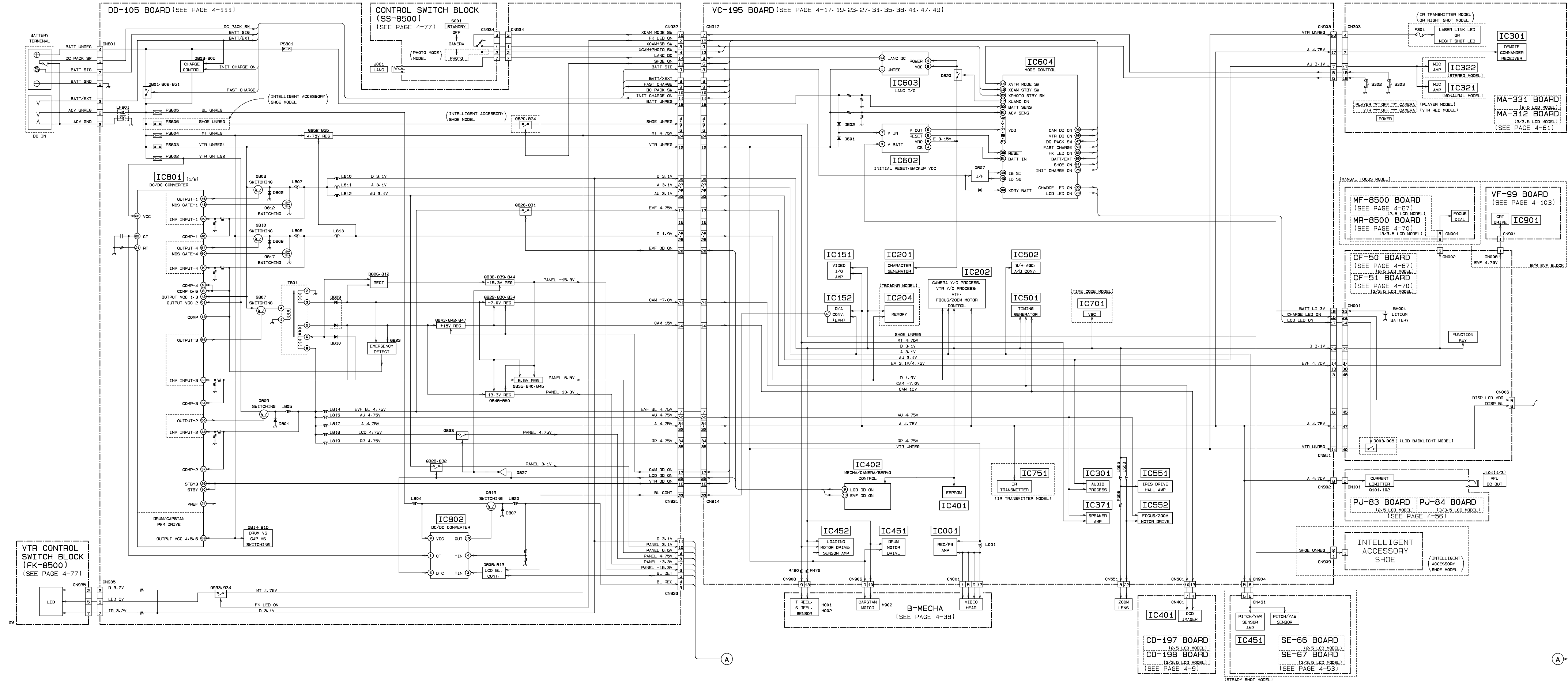
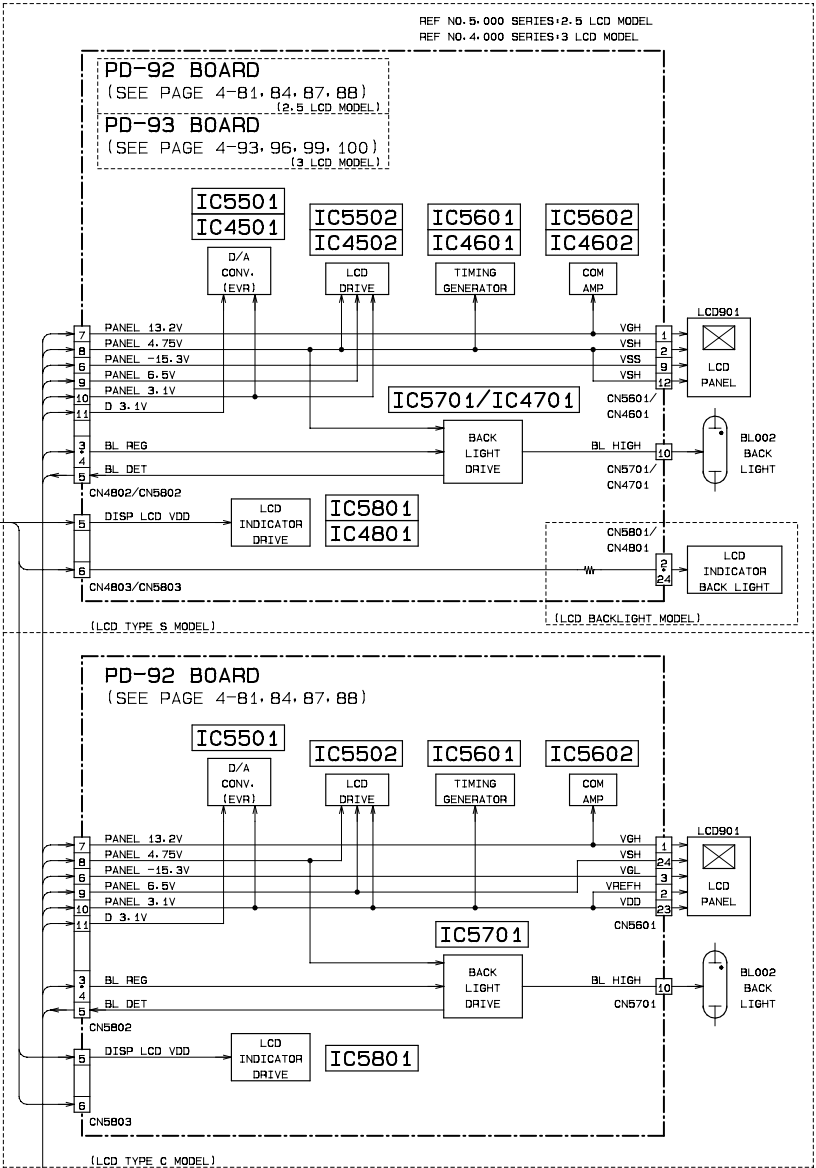
3-8. LCD (CCD-TRV3E/TRV13E) BLOCK DIAGRAM



3-9. B/W EVF BLOCK DIAGRAM



3-10. POWER BLOCK DIAGRAM

[illegible]

The diagram illustrates the internal architecture of the Sony CCD-TRV75 camcorder, detailing the following components and their interconnections:

- Optical Section (A):** Includes the LENS, CD-197 BOARD (2.5INCH LCD MODEL), and CD-198 BOARD (3INCH/3.5INCH LCD MODEL).
- Video Section (B):** Features the PJ-83 BOARD (2.5INCH LCD MODEL) and PJ-84 BOARD (3INCH/3.5INCH LCD MODEL).
- Accessory Section (C):** Shows the INTELLIGENT ACCESSORY SHOE and its connection to the SHOE_UNREG and SHOE_MIC lines.
- Control Section (D):** Includes the CONTROL SWITCH BLOCK (MR-8500 and MF-8500) and the VC-195 BOARD (CH, LD, CL, IO, MC, SB, AU, IR, HI blocks).
- Power and Battery Section (E):** Details the LITHIUM BATTERY, FFC-235, and various power supply lines (EVF, XCS, XCD, XSD, DISP).
- Audio Section (F):** Shows the AUDIO input/output, including the AUDIO_L, AUDIO_R, and XJACK_MONO connections.
- Mechanical Section (G):** Includes the B-MECHA (Belt Mechanism) with components like the DRUM MOTOR, CAPSTAN MOTOR, and various gears and belts.
- Other Boards (H-M):** Includes the SE-66/SE-67 boards, MA-312/MA-331 boards, and various connectors (CN001, CN002, CN003, etc.).

The diagram is organized into sections labeled A through M and 1 through 28, providing a comprehensive view of the camcorder's internal components and their electrical connections.

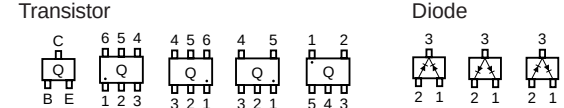


4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

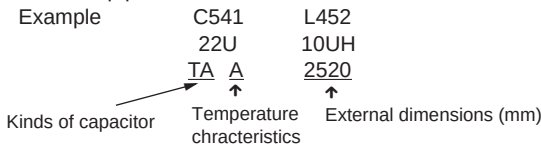
• For printed wiring boards.

- Pattern from the side which enable seeing.
(The other layer's patterns are not indicated.)
- Circled numbers refer to waveforms.
- Through hole is omitted.
- There are few cases that the part printed on diagram isn't mounted in this model.
- Chip parts.



• For schematic diagrams.

- All capacitors are in μF unless otherwise noted. pF : μF .
- 50 V or less are not indicated except for electrolytics and tantalums.
- Chip resistor are 1/16W unless otherwise noted.
- $\text{k}\Omega$: 1000 Ω , $\text{M}\Omega$: 1000 $\text{k}\Omega$.
- Caution when replacing chip parts.
New parts must be attached after removal of chip.
Be careful not to heat the minus side of tantalum capacitor, because it is damaged by the heat.
- Some chip part will be indicated as follows.



- Constants of resistors, capacitors, ICs and etc with XX indicate tha they are not used. In such cases, the unused circuits may be indicated.
- Parts with ☆ differ according to the model/destination. Refer to the mount table for each function.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

Signal name
XEDIT → EDIT PB/XREC → PB/REC

- non flammable resistor.
- fusible resistor.
- panel designation.
- B+ Line
- B- Line
- IN/OUT direction of (+, -) B LINE.
- adjustment for repair.
- Circled numbers refer to waveforms.

The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

Refer to page 3 as for "Table for difference of functions" of models and classification.

• Measuring conditions voltage value and waveform.

- The object is color bar chart of pattern box.
- Voltages and dc between ground and measurement points.
Readings are taken with a digital multimeter (DC 10M Ω).
- Voltages variations may be noted due to normal production tolerances.

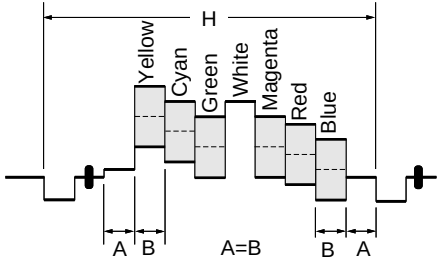
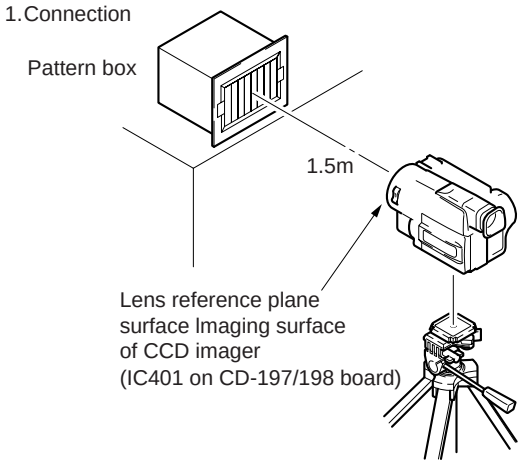


Fig. a (Video output terminal output waveform)

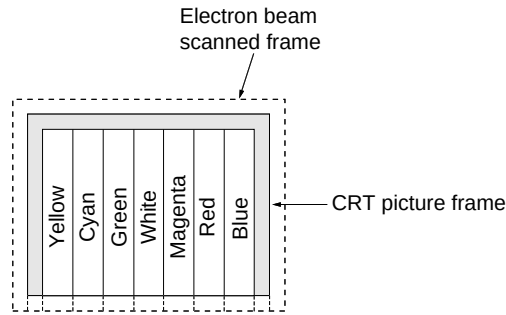
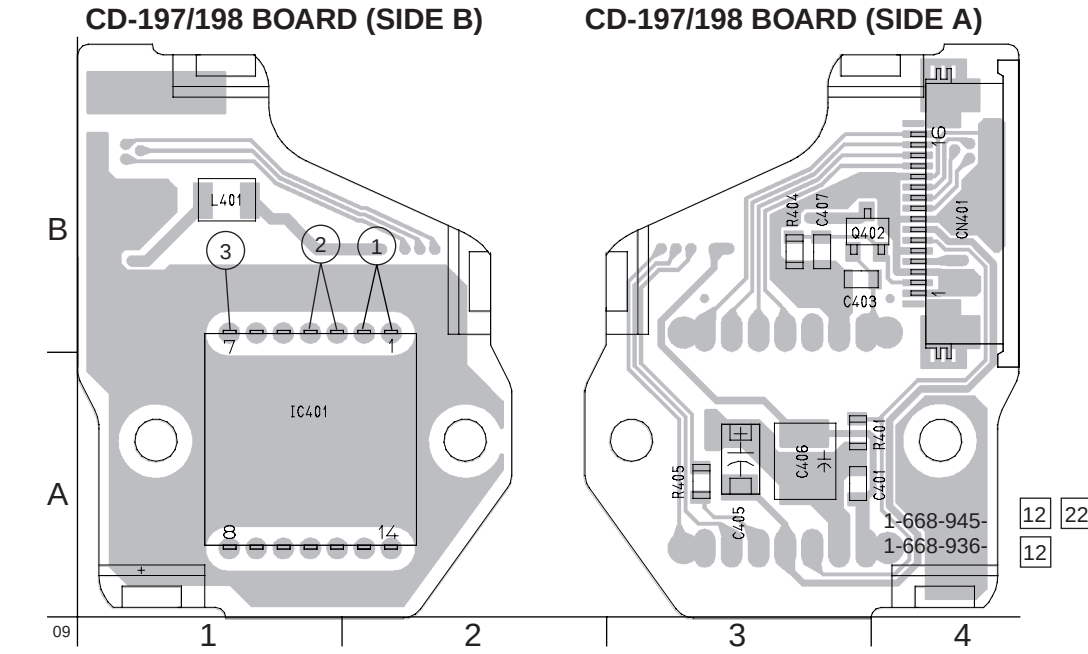


Fig. b (Picture on monitor TV)

CD-197/198 (CCD IMAGER) (2.5 INCH LCD, 3 INCH/3.5 INCH LCD MODEL) PRINTED WIRING BOARD

— Ref No. CD-197 BOARD: 4,000 series, CD-198 BOARD: 9,000 series —



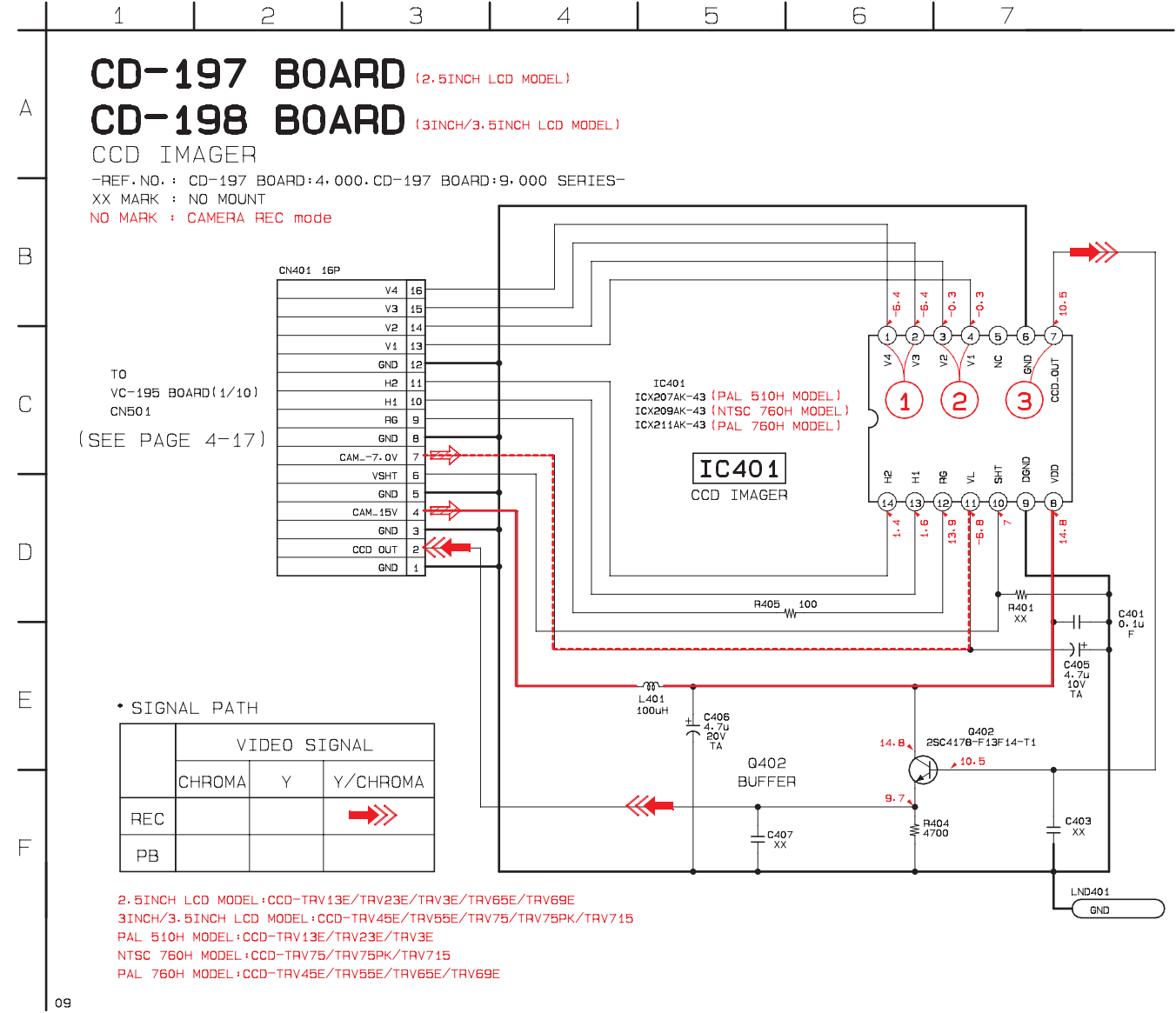
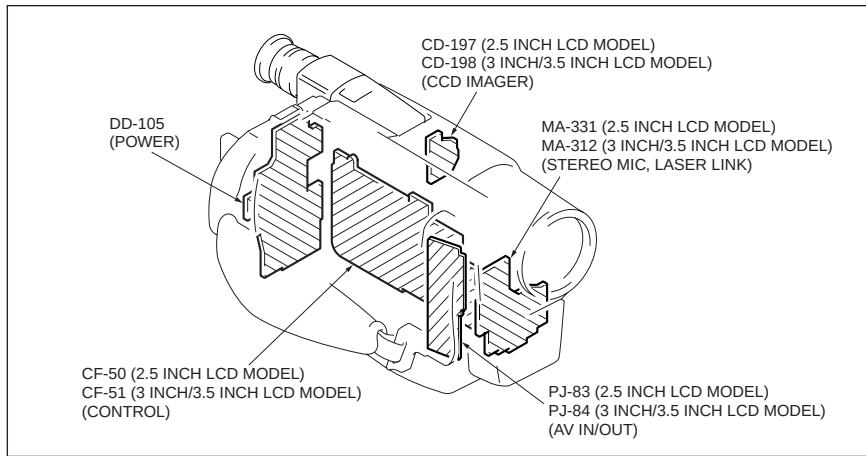
CD-197/
CD-198 BOARD

C401	A-3
C403	B-3
C405	A-3
C406	A-3
C407	B-3
CN401	B-4
IC401	A-1
L401	B-1
Q402	B-3
R401	A-3
R404	B-3
R405	A-3

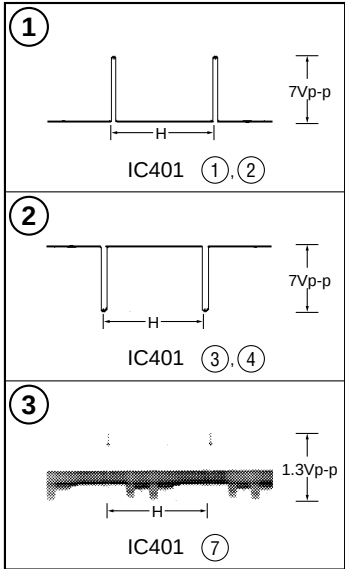
• For Printed Wiring Boards.

There are few cases that the part isn't mounted in this model is printed on this diagram.

• Chip transistor



CD-197/198 BOARD
CAMERA REC



Note on the CCD imager replacement

- The CCD imager is not mounted for the already mounted CD-197/198 board supplied as the repair parts.
When replacing the CD-197/198 board, remove the CCD imager from the old board and install on the new board.
- Perform all adjustments of the camera block when the CCD imager has been replaced.
- Handle the CCD imager with attention such as MOS IC as it may be broken by static electricity in the structure.
Also, prevent the receiving light section from dust attached and strong light.

CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/TRV65E/
TRV69E/TRV75/TRV75PK/TRV715

VC-195 BOARD
(SIDE B)

C002	A-5	C213	D-5	C481	A-1	C774	A-8	L156	C-7	Q454	A-1	R112	C-7	R428	B-2	R628	E-2	R773	B-8
C003	A-3	C217	D-4	C482	A-2	C775	A-8	L201	D-3	Q455	A-1	R152	D-8	R429	B-1	R629	F-1	R774	B-9
C008	A-4	C218	D-4	C483	A-2	C776	B-8	L202	D-4	Q551	G-7	R154	D-8	R430	B-1	R630	F-2	R775	A-8
C009	B-5	C227	D-5	C484	A-2	C777	A-8	L203	D-6	Q607	F-2	R157	D-8	R432	C-2	R631	G-2	R921	B-1
C011	B-5	C229	E-5	C485	A-1	C778	B-9	L204	D-4	Q619	E-3	R179	D-8	R433	C-2	R632	G-1	R922	D-1
C012	B-5	C232	D-3	C504	A-6	C781	B-8	L205	D-6	Q620	F-2	R180	D-8	R434	C-2	R633	E-2	R923	D-1
C013	B-6	C233	D-5	C514	E-5			L206	D-3	Q705	F-7	R201	B-6	R452	A-3	R634	E-2	R924	D-1
C014	B-6	C234	D-5	C506	E-6			L207	E-4			R184	E-8	R453	A-3	R635	E-2	R925	D-1
C015	B-5	C235	D-3	C507	E-6	CN904	A-9	L209	E-4	R001	A-6	R202	D-3	R454	A-3	R636	E-2	R926	G-7
C016	B-5	C236	D-3	C508	E-6	CN907	D-9	L402	C-2	R002	A-6	R203	D-4	R455	A-3	R637	G-2	R927	G-7
C017	B-5	C239	E-4	C509	E-7			L501	E-6	R008	A-4	R204	D-3	R456	A-3	R638	G-2		
C019	B-5	C241	E-3	C510	E-6	D001	C-4	L502	F-7	R009	A-5	R205	D-3	R457	A-3	R639	G-2		
C020	B-5	C243	F-3	C514	E-5	D201	D-3	L553	G-7	R010	B-6	R206	D-4	R459	A-3	R640	F-2	RB12	C-8
C022	B-5	C244	F-3	C515	E-5	D202	D-3	L552	E-3	R011	B-5	R208	D-3	R460	A-3	R641	F-3	RB151	C-8
C025	B-6	C245	D-4	C518	F-5	D371	E-8	L701	F-7	R012	B-5	R210	D-3	R461	A-3	R642	F-2	TH401	B-4
C038	B-6	C246	D-4	C553	G-6	D502	F-5	L702	F-7	R013	B-6	R211	D-3	R462	A-3	R643	F-2		
C040	B-6	C247	D-4	C554	G-7	D601	E-2	L704	F-8	R014	B-4	R212	D-6	R463	A-3	R644	F-2		
C042	B-5	C249	E-4	C556	G-7	D602	E-2	L751	B-8	R015	B-5	R214	D-5	R467	A-2	R645	E-2		
C043	B-5	C252	F-3	C557	G-5	D604	F-2	L752	B-8	R016	B-6	R215	D-5	R468	A-2	R646	F-2		
C048	B-6	C301	B-9	C558	G-5	D608	F-1	L753	B-8	R017	B-6	R216	D-5	R469	A-2	R647	F-2		
C050	C-6	C312	C-9	C559	F-7	D609	F-2			R018	B-5	R217	E-4	R470	A-2	R648	F-2		
C051	B-5	C371	E-8	C563	F-6	D611	E-2			R019	B-5	R223	D-3	R471	A-2	R649	F-2		
C054	B-5	C372	E-8	C564	F-7	D910	G-1	Q003	A-5	R020	B-4	R224	D-3	R472	A-3	R651	F-2		
C056	B-6	C378	F-7	C566	G-7			Q004	A-6	R021	B-5	R226	D-1	R473	A-1	R652	F-3		
C058	B-6	C380	E-7	C569	F-6			Q006	A-5	R023	B-6	R240	D-4	R475	A-2	R653	F-3		
C060	C-5	C381	E-7	C572	G-6	FB202	E-4	Q007	A-6	R025	B-6	R244	D-3	R477	A-2	R654	F-3		
C066	B-6	C382	F-8	C603	F-1	FB204	F-3	Q008	B-6	R029	B-5	R246	D-3	R479	A-2	R655	F-2		
C067	C-6	C383	E-8	C607	E-2	FB205	F-3	Q009	B-6	R031	B-5	R247	D-3	R480	A-2	R662	E-3		
C068	C-6	C384	E-8	C610	F-2	FB206	D-4	Q010	B-5	R040	B-5	R248	E-3	R481	A-2	R663	F-3		
C069	C-6	C385	E-8	C611	F-2	FB207	E-5	Q011	B-5	R041	B-5	R249	E-3	R482	A-2	R665	F-3		
C070	C-6	C387	E-8	C613	E-1	FB502	E-6	Q012	B-5	R042	B-5	R250	F-3	R483	A-1	R678	F-3		
C072	C-6	C388	E-8	C625	E-2	FB503	E-5	Q016	B-5	R047	B-5	R254	D-1	R484	A-1	R686	E-2		
C074	C-6	C402	C-1	C626	E-2	FB504	E-5	Q017	B-6	R048	B-5	R255	E-5	R485	A-1	R687	E-2		
C076	C-5	C413	B-2	C627	F-2	FB505	E-5	Q018	C-5	R049	B-6	R257	D-4	R486	B-1	R689	F-3		
C077	C-5	C451	A-3	C630	F-3	FB506	E-5	Q019	C-6	R050	B-6	R304	B-9	R487	A-1	R690	F-2		
C080	C-5	C452	A-3	C634	F-3			Q021	B-6	R051	B-6	R305	C-9	R504	E-6	R691	E-2		
C083	C-5	C453	A-3	C636	F-2	IC152	C-8	Q023	C-6	R056	B-6	R329	A-6	R505	E-6	R692	F-1		
C086	C-4	C454	A-3	C704	F-7	IC201	E-5	Q025	C-6	R058	B-6	R330	A-7	R508	E-5	R704	G-8		
C087	C-4	C455	A-3	C714	F-8	IC204	F-4	Q026	C-6	R066	B-6	R371	D-8	R510	E-5	R705	G-7		
C090	C-6	C456	A-4	C715	F-8	IC371	E-7	Q030	C-5	R067	C-6	R372	D-8	R511	E-5	R716	G-8		
C152	D-8	C457	A-3	C751	B-6	IC401	C-2	Q031	C-5	R068	C-7	R373	D-9	R512	F-5	R717	F-8		
C157	E-8	C458	A-4	C752	A-7	IC403	B-2	Q032	C-7	R069	C-6	R374	D-8	R527	E-5	R718	F-7		
C158	D-8	C459	A-4	C753	A-7	IC404	B-2	Q035	C-4	R069	C-6	R375	D-8	R552	G-6	R719	F-8		
C159	C-8	C460	A-4	C754	A-7	IC451	A-4	Q037	C-4	R070	C-6	R376	D-8	R555	G-7	R723	F-7		
C174	D-8	C461	A-3	C755	A-7	IC452	A-2	Q038	C-5	R076	C-6	R377	E-8	R563	G-5	R752	A-7		
C175	D-8	C462	A-4	C756	A-7	IC501	E-6	Q039	C-5	R077	C-6	R378	E-8	R564	G-6	R753	A-7		
C176	D-8	C463	A-3	C757	A-7	IC552	G-6	Q041	B-5	R078	C-5	R379	E-7	R566	G-1	R754	B-6		
C182	D-8	C464	B-3	C758	A-8	IC602	E-2	Q042	C-4	R079	C-6	R382	E-8	R567	G-6	R755	B-6		
C183	D-8	C465	B-4	C759	B-6	IC751	A-8	Q151	D-8	R080	C-6	R383	E-8	R570	F-5	R757	A-7		
C190	D-8	C466	B-3	C760	B-6			Q202	D-3	R083	C-5	R384	E-7	R579	G-6	R758	A-7		
C191	C-7	C467	B-3	C761	B-8	L002	B-4	Q203	D-3	R084	C-5	R385	F-8	R582	G-6	R759	A-7		
C192	C-7	C468	B-3	C762	B-8	L003	B-4	Q204	D-5	R087	C-5	R386	F-8	R603	F-2	R760	B-8		
C202	D-3	C469	B-4	C763	B-8	L007	C-5	Q205	E-5	R088	F-8	R386	F-8	R604	F-2	R761	A-8		
C203	D-3	C470	B-4	C764	B-8	L008	C-6	Q208	D-6	R090	C-5	R388	E-8	R608	F-2	R762	A-8		
C204	D-4	C471	B-4	C765	A-8	L010	C-6	Q217	D-4	R094	C-5	R389	E-8	R612	E-1	R763	A-8		
C205	E-4	C473	A-1	C766	A-8	L011	C-6	Q218	D-4	R095	C-7	R403	C-2	R618	F-1	R764	B-8		
C206	D-4	C474	A-2	C767	B-8	L014	C-5	Q306	B-9	R097	C-5	R404	C-3	R619	F-1	R765	B-8		
C207	D-3	C475	A-2	C768	B-8	L015	C-5	Q307		R100	C-5	R415	B-2	R620	F-1	R766	A-8		
C208	D-3	C476	A-2	C769	A-8	L017	C-5	Q311	A-6	R104	C-5	R416	B-2	R621	F-1	R767	B-8		
C209	D-6	C477	A-2	C770	A-8	L019	B-6	Q312	A-7	R105	C-6	R417	B-2	R622	F-2	R768	A-8		
C210	D-6	C478	A-2	C771	B-8	L152	D-8	Q451	B-3	R106	C-6	R418	B-2	R624	F-1	R770	A-8		
C211	D-3	C479	A-2	C772	A-8	L153	D-7	Q452	B-4	R109	B-4	R426	C-2	R625	F-2	R771	A-8		
C212	D-3	C480	A-2	C773	B-8	L154	D-7	Q453	B-4	R110	B-5	R427	B-2	R627	E-2	R772	A-8		

• For Printed Wiring Boards.

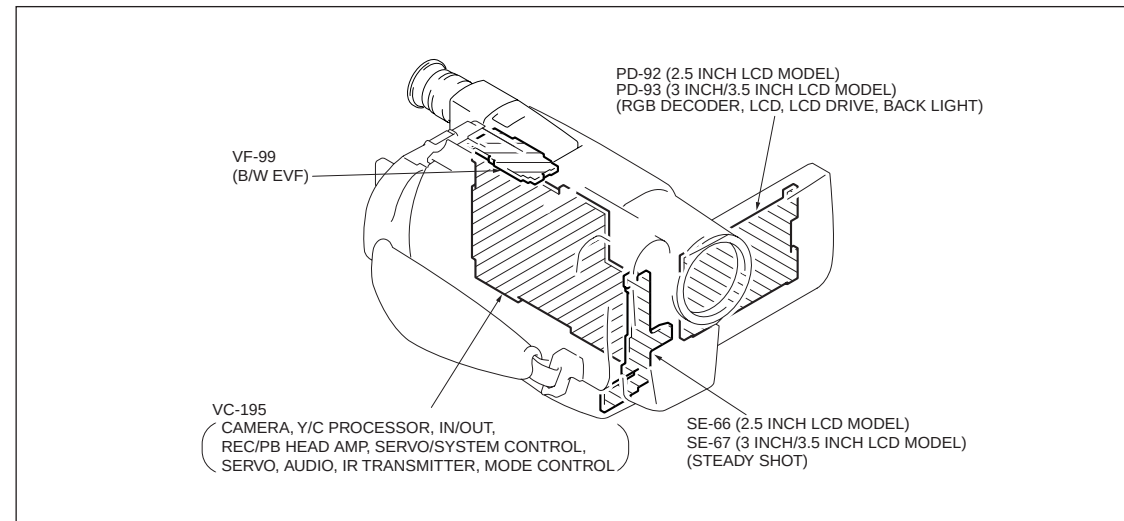
- This board is four-layer print board. However, the patterns of layers 2 to 3 have not been included in the diagram.

There are few cases that the part isn't mounted in this model is printed on this diagram.

• Chip transistor



Chip diode

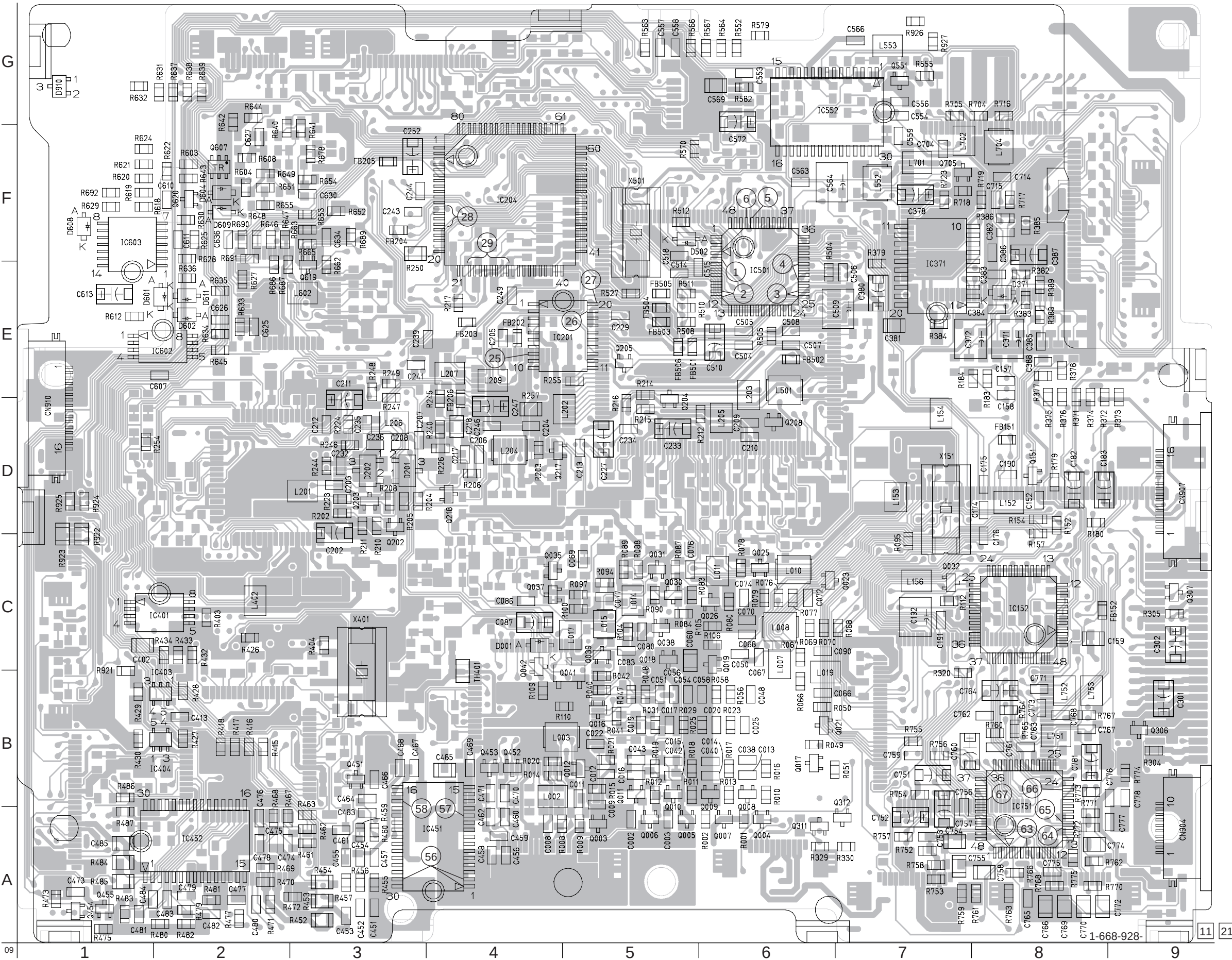


4-10

VC-195 (CAMERA, Y/C PROCESSOR, IN/OUT, REC/PB HEAD AMP, SERVO/SYSTEM CONTROL, SERVO, AUDIO, IR TRANSMITTER, MODE CONTROL) PRINTED WIRING BOARD

— Ref No. VC-195 BOARD: 1,000 series —

VC-195 BOARD (SIDE B)



4-11

4-12

CAMERA, Y/C PROCESSOR, IN/OUT, REC/PB HEAD AMP, SERVO/SYSTEM CONTROL, SERVO, AUDIO, IR TRANSMITTER, MODE CONTROL

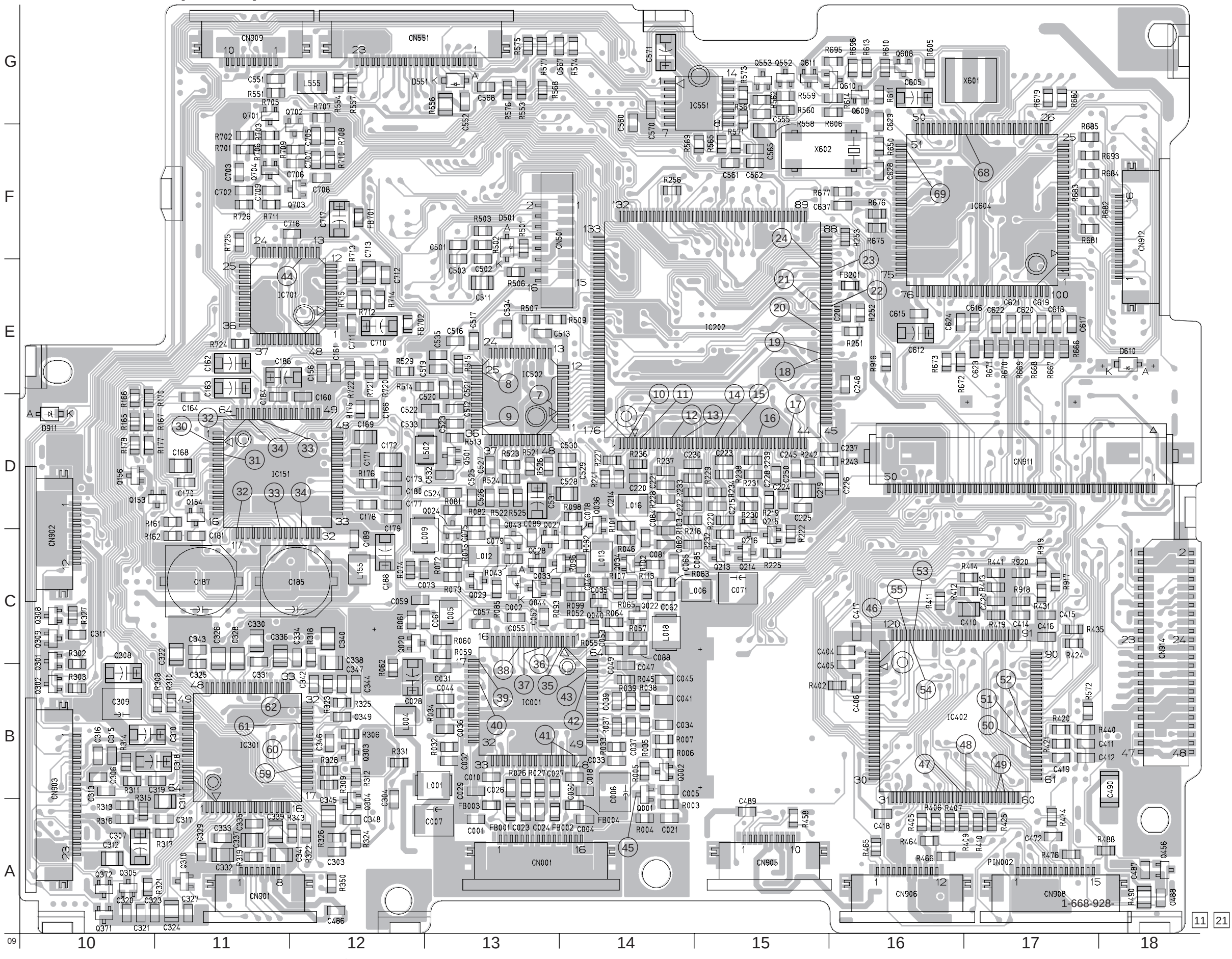
VC-195 (SIDE B)

CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/TRV65E/
TRV69E/TRV75/TRV75PK/TRV715

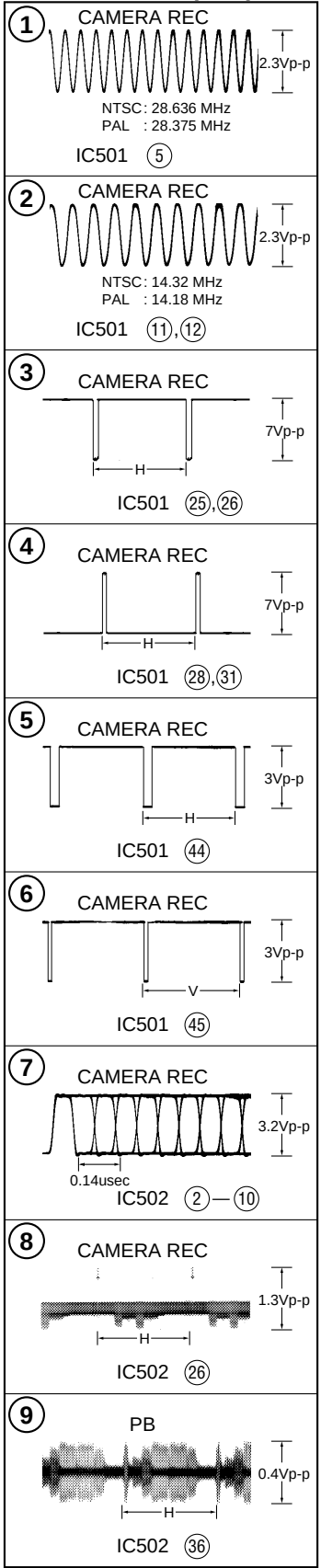
VC-195 BOARD
(SIDE A)

C001	A-13	C328	C-11	CN908	A-17	R074	C-12	R527	B-17
C004	A-14	C330	C-11	CN909	C-11	R075	C-13	R529	E-12
C006	B-13	C331	C-11	CN911	D-17	R081	D-13	R551	G-11
C007	B-14	C332	A-11	CN912	F-18	R082	D-13	R552	G-15
C018	B-14	C333	A-11	CN914	B-18	R085	C-13	R553	G-13
C021	A-14	C334	C-12			R092	C-14	R554	G-12
C023	A-13	C335	A-11			R093	C-13	R556	G-13
C024	B-13	C336	C-11	D501	F-13	R096	C-14	R557	G-12
C026	B-12	C337	A-11	D551	G-13	R098	D-14	R558	F-15
C027	B-13	C338	B-12	D610	E-18	R099	C-14	R559	G-15
C028	B-12	C339	A-11	D911	D-10	R101	D-14	R560	G-15
C029	B-13	C340	C-12			R102	C-14	R561	G-15
C030	B-14	C341	A-11	FB001	A-13	R103	C-14	R562	G-15
C031	B-13	C342	B-12	FB002	A-13	R107	C-14	R565	F-15
C032	B-13	C343	C-11	FB003	A-13	R113	C-14	R568	G-13
C033	B-14	C344	B-12	FB004	A-14	R161	D-11	R569	F-15
C034	B-14	C345	A-12	FB201	E-16	R162	C-11	R571	F-15
C035	C-14	C346	B-12	FB701	F-12	R165	D-10	R573	G-15
C036	C-14	C347	B-12	FB702	E-12	R166	D-10	R574	G-14
C037	C-14	C348	A-12			R167	D-10	R575	G-13
C038	C-14	C349	B-12	IC001	B-13	R170	D-10	R576	G-13
C039	B-14	C404	C-16	IC151	D-11	R175	D-12	R577	G-13
C040	B-14	C405	B-16	IC202	E-15	R176	D-12	R605	G-16
C041	B-14	C406	B-16	IC301	B-13	R177	D-10	R606	G-16
C042	B-14	C410	C-17	IC402	B-16	R178	D-10	R610	G-16
C043	C-14	C411	B-17	IC502	D-13	R218	D-14	R611	G-16
C044	C-14	C412	B-17	IC551	G-15	R219	D-15	R613	G-16
C045	B-14	C414	C-17	IC701	E-11	R220	D-15	R614	G-16
C046	C-14	C415	C-17			R222	C-15	R650	F-16
C047	C-14	C416	C-17			R223	C-15	R666	E-17
C048	C-13	C417	C-16	L001	B-13	R227	D-14	R667	E-17
C049	C-13	C418	A-16	L005	C-13	R228	D-14	R668	E-17
C050	C-13	C419	B-17	L006	C-15	R229	D-14	R669	E-17
C051	C-12	C420	C-17	L009	C-13	R230	D-15	R670	E-17
C052	C-13	C472	A-17	L012	C-13	R231	D-15	R671	E-17
C053	C-12	C486	A-12	L013	C-14	R232	C-15	R672	E-16
C054	C-14	C487	A-18	L016	D-14	R233	D-14	R673	E-16
C055	C-15	C488	A-18	L018	C-14	R234	D-15	R675	F-16
C056	C-13	C489	A-15	L155	C-12	R236	D-14	R676	F-16
C057	C-13	C490	B-18	L502	D-13	R237	D-14	R679	G-17
C058	C-14	C501	F-13	L555	G-12	R238	D-15	R680	G-17
C059	C-13	C502	E-13			R239	D-15	R681	F-17
C060	C-14	C503	E-13	Q001	B-14	R241	D-14	R682	F-17
C061	C-14	C511	E-13	Q002	B-14	R242	D-15	R683	F-17
C062	D-14	C512	D-13	Q020	C-12	R243	D-16	R684	F-17
C063	C-14	C513	E-13	Q022	C-14	R251	E-16	R685	F-17
C064	C-14	C516	E-13	Q024	F-16	R252	C-13	R693	F-17
C065	C-13	C517	E-13	Q027	C-13	R253	F-16	R695	G-16
C066	E-12	C519	E-13	Q028	C-13	R256	F-14	R696	G-16
C067	D-12	C520	E-13	Q029	C-13	R302	C-10	R701	F-11
C068	E-12	C521	E-13	Q033	C-14	R303	B-10	R702	F-11
C069	E-11	C522	D-13	Q034	C-14	R306	B-12	R703	F-11
C070	D-11	C523	D-13	Q036	B-14	R308	B-11	R706	F-11
C071	D-12	C524	D-13	Q040	C-14	R309	B-12	R707	G-12
C072	D-12	C525	D-13	Q043	C-13	R310	B-11	R708	F-12
C073	D-12	C526	D-13	Q044	C-13	R311	B-10	R709	F-12
C074	D-12	C527	D-13	Q153	D-11	R312	B-12	R710	F-12
C075	D-11	C528	D-14	Q154	D-11	R313	A-10	R711	F-11
C076	D-12	C529	D-14	Q156	D-10	R314	B-10	R712	E-12
C077	D-12	C530	D-14	Q213	C-15	R315	A-10	R713	E-12
C078	D-12	C531	D-13	Q214	C-15	R316	A-10	R714	E-12
C079	D-12	C532	D-13	Q215	C-15	R317	A-11	R715	E-12
C080	D-12	C533	D-13	Q216	C-15	R318	C-12	R720	E-12
C081	D-12	C534	D-13	Q217	E-13	R319	A-11	R721	E-12
C082	D-13	C535	E-13	Q302	B-10	R321	A-10	R722	E-12
C083	C-11	C551	G-11	Q303	B-12	R322	A-12	R724	E-11
C084	D-11	C552	G-13	Q304	A-12	R323	B-12	R725	F-11
C085	C-12	C555	G-15	Q305	A-10	R325	B-12	R726	F-11
C086	E-11	C560	F-14	Q308	C-10	R326	A-12	R916	E-16
C087	C-11	C561	F-15	Q309	C-1	R327	C-1	R917	C-17
C088	C-12	C562	F-15	Q310	A-11	R328	B-12	R918	C-17
C089	C-12	C565	F-15	Q329	A-11	R331	B-12	R919	C-17
C090	E-16	C567	G-14	Q371	A-10	R343	A-12	R920	C-17
C091	D-14	C568	G-13	Q372	A-10	R350	A-12		
C092	D-15	C570	G-14	Q456	A-18	R402	B-16		
C093	D-15	C571	G-14	Q501	B-13	R405	A-16		
C094	D-14	C604	F-17	Q553	G-15	R406	A-16		
C095	D-14	C605	G-16	Q608	G-16	R407	A-16		
C096	D-14	C612	E-16	Q609	G-16	R409	A-16		
C097	D-15	C615	E-16	Q610	G-16	R410	A-17		
C098	D-15	C616	E-17	Q611	G-15	R412	C-16		
C099	D-15	C617	E-17	Q701	G-11	R413	C-17		
C100	D-16	C618	E-17	Q702	F-12	R414	C-17		
C101	D-15	C619	E-17	Q703	F-12	R414	C-17		
C102	D-14	C620	E-17	Q704	F-11	R419	C-17		
C103	D-16	C621	E-17			R420	B-17		
C104	D-15	C622	E-17			R421	B-17		
C105	E-16	C623	E-17	R003	A-14	R424	C-17		
C106	D-15	C624	E-16	R005	B-14	R425	A-17		
C107	A-12	C628	F-16	R006	B-14	R431	C-17		
C108	A-12	C629	F-16	R007	B-14	R435	C-17		
C109	B-10	C637	F-16	R026	B-13	R440	B-17		
C110	A-10	C702	F-11	R027	B-14	R441	C-17		
C111	B-10	C703	F-11	R032	B-13	R458	A-15		
C112	B-10	C705	F-12	R033	B-14	R464	A-16		
C113	B-10	C706	F-12	R034	B-13	R465	A-16		
C114	C-10	C707	F-12	R035	B-14	R466	A-16		
C115	A-10	C708	F-12	R037	B-14	R474	A-17		
C116	B-10	C709	F-11	R038	B-14	R476	A-17		
C117	A-11	C710	E-12	R039	B-14	R488	A-18		
C118	B-10	C711	E-12	R043	C-13	R490	A-18		
C119	B-10	C712	E-12	R045	B-14	R501	F-13		
C120	A-11	C713	E-12	R046	C-14	R502	F-13		
C121	B-10	C716	F-12	R052	C-14	R503	F-13		
C122	B-11	C717	F-12	R055	C-14	R507	E-13		
C123	A-10			R057	C-14	R509	E-13		
C124	A-10	CN001	A-13	R059	C-13	R513	D-13		
C125	C-11	CN501	F-14	R060	C-13	R514	E-13		
C126	A-11	CN551	G-12	R062	B-12	R521	D-13		
C127	A-11	CN901	C-14	R063	C-14	R522	D-13		
C128	A-12	CN902	C-10	R064	C-14	R523	D-13		
C129	C-11	CN903	B-10	R065	C-14	R524	D-13		
C130	C-11	CN905	A-15	R072	C-13	R525	D-13		
C131	C-11	CN906	A-16	R073	C-13	R526	D-13		

VC-195 BOARD (SIDE A)



VC-195 BOARD (1/10)



VC-195 BOARD (1/10)

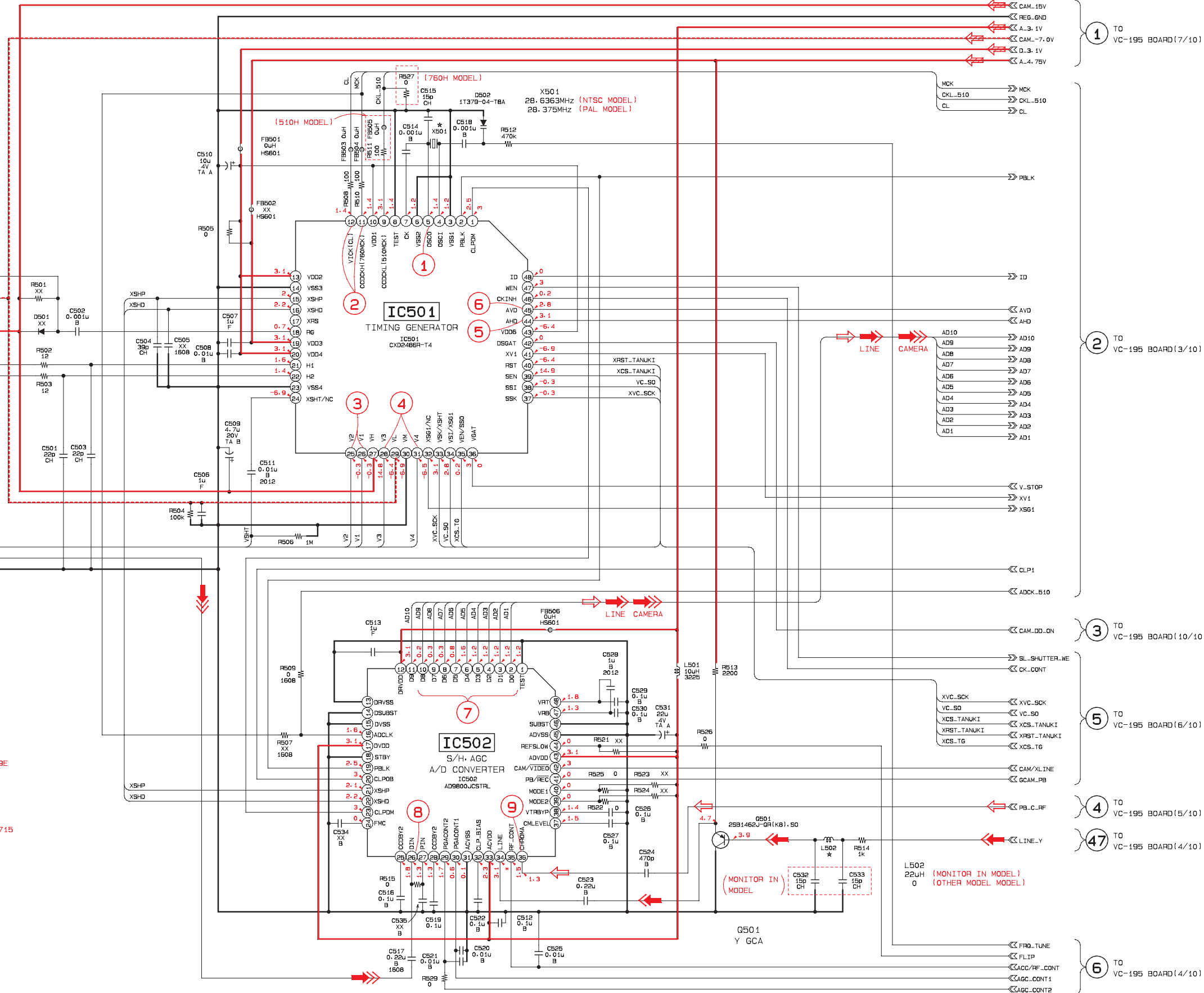
CAMERA1 (CH BLOCK)
-REF.NO.: 1-000 SERIES-
XX MARK: NO MOUNT
NO MARK: CAMERA REC mode
*: Can not be measured.

(3INCH/3.5INCH LCD MODEL)
(2.5INCH LCD MODEL)
TO
CD-197 BOARD
CD-198 BOARD
CN401
(SEE PAGE 4-9)

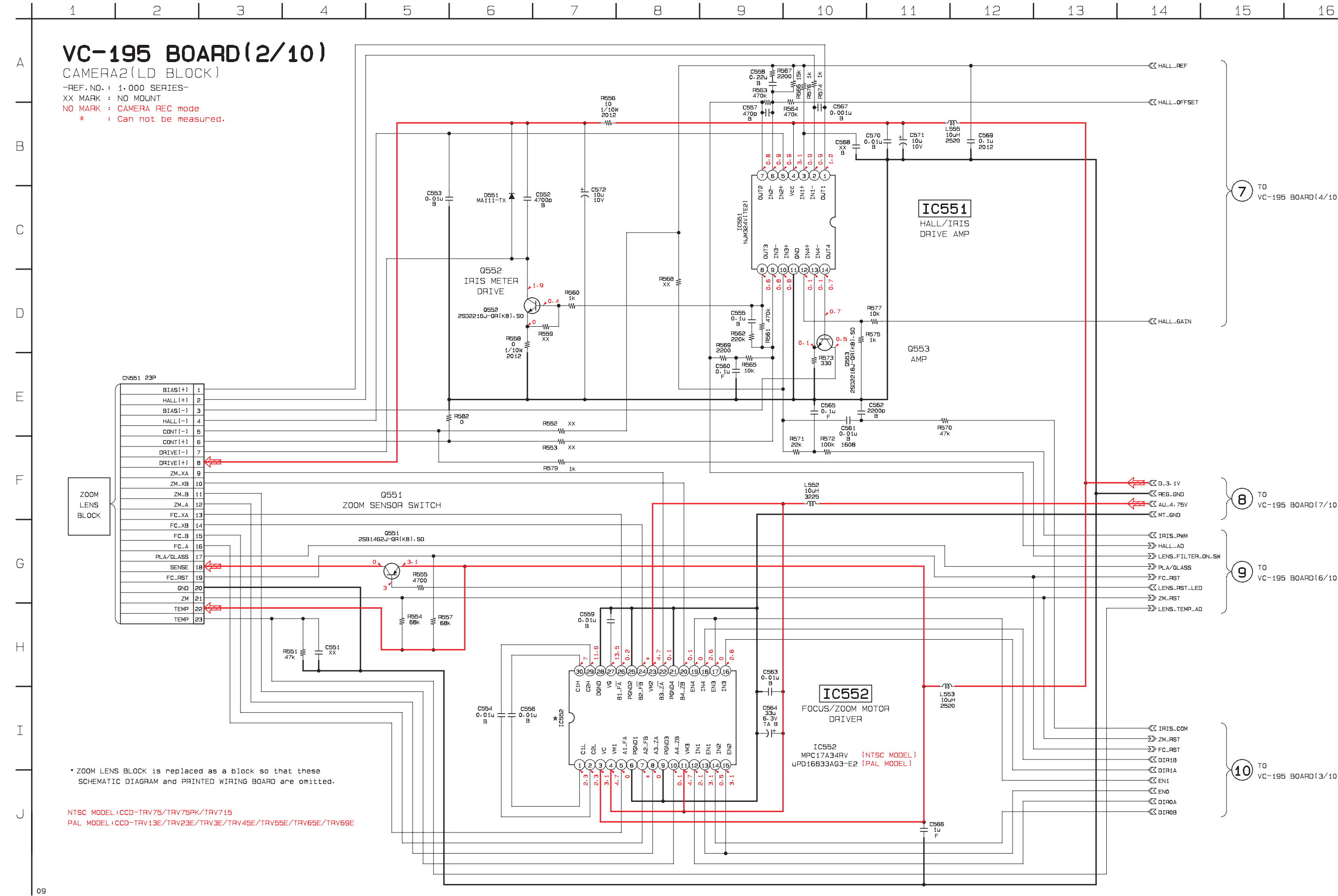
SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC		→	→
PB	→		

NTSC MODEL: CCD-TRV75/TRV75PK/TRV715
PAL MODEL: CCD-TRV13E/TRV23E/TRV3E/TRV45E/TRV55E/TRV65E/TRV69E
510H MODEL: CCD-TRV13E/TRV23E/TRV3E
760H MODEL: EXCEPT: CCD-TRV13E/TRV23E/TRV3E
MONITOR IN MODEL: EXCEPT: CCD-TRV13E/TRV23E/TRV3E
OTHER MODEL: CCD-TRV13E/TRV23E/TRV3E
2.5INCH LCD MODEL: CCD-TRV13E/TRV23E/TRV3E/TRV65E/TRV69E
3INCH/3.5INCH LCD MODEL: CCD-TRV45E/TRV55E/TRV75/TRV75PK/TRV715



- For schematic diagrams.
- Refer to page 4-11 for Printed Wiring Board.

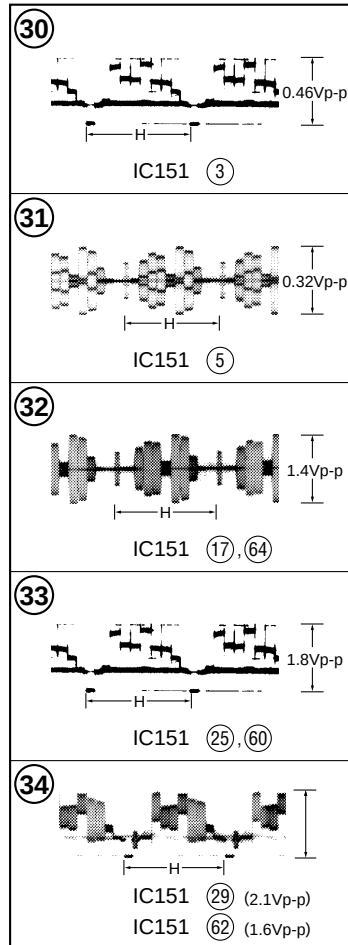


- 4-23



- 4-29**

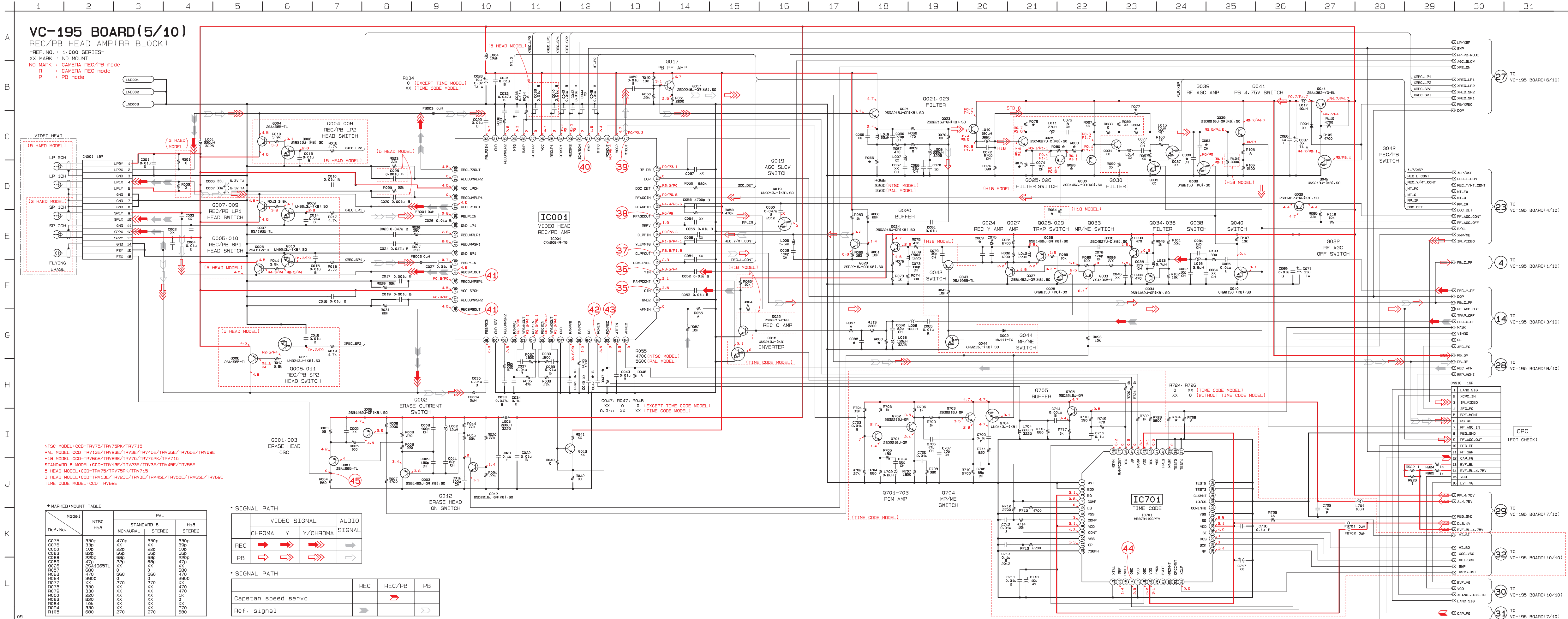
IN/OUT
VC-195 (4/10)



• SIGNAL PATH				
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				
PB				

```
H1B MODEL:CCD-TRV65E/TRV69E/TRV75/TRV75P/TRV715
VTR VTC MODEL:CCD-TRV45E/TRV45E/TRV65(Chinese)/TRV75/TRV75P/TRV715
NTSC MODEL:CCD-TRV75/TRV75P/TRV715
PAL MODEL:CCD-TRV13E/TRV23E/TRV3E/TRV45E/TRV55E/TRV65E/TRV69E
IR TRANSMITTER MODEL:CCD-TRV75/TRV75P/TRV715
2.5INCH LCD MODEL:CCD-TRV13E/TRV23E/TRV3E/TRV65E/TRV69E
3INCH/3.5INCH LCD MODEL:CCD-TRV45E/TRV55E/TRV75/TRV75P/TRV715
```


- For schematic diagrams.
- Refer to page 4-11 for Printed Wiring Board.



- VC-195 BOARD(6/10)**
SERVO/SYSTEM CONTROL (MC BLOCK)

-REF.NO.: 1-000 SERIES-
XX MARK: NO MOUNT
NO MARK: CAMERA REC mode
*: Can not be measured.

SIGNAL PATH

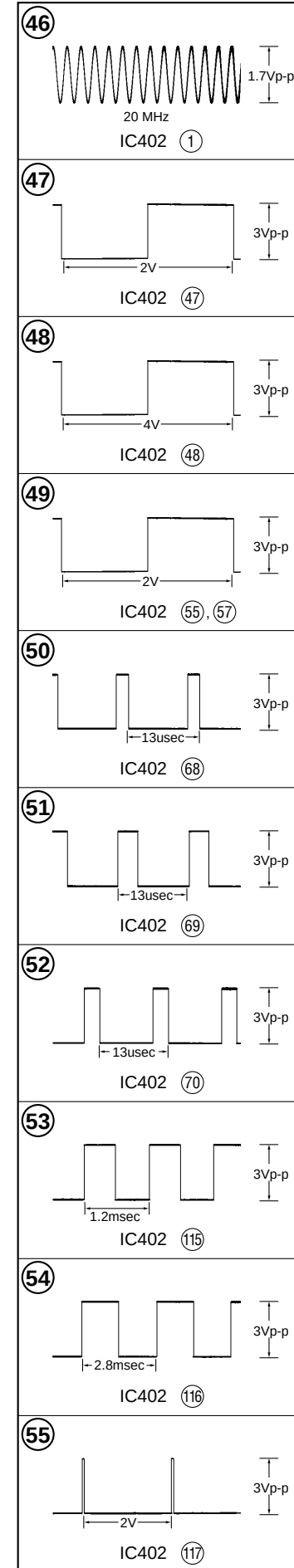
	REC	REC/PB	PB
Drum speed servo			
Drum phase servo			
Drum servo(speed and phase)			
Capstan speed servo			
Capstan servo(speed and phase)			

*** MARKED MOUNT TABLE**

Ref. No.	Model	TYPE A	TYPE B	TYPE C	TYPE D	TYPE E	TYPE F
R917	22k	22k	56k	56k	22k	22k	22k
R918	100k	100k	56k	56k	100k	100k	100k
R919	100k	100k	56k	56k	100k	100k	100k
R920	22k	22k	56k	56k	22k	22k	22k

TYPE A MODEL: CCD-TRV13E/TRV23E/TRV3E
TYPE B MODEL: CCD-TRV45E
TYPE C MODEL: CCD-TRV55E
TYPE D MODEL: CCD-TRV65E
TYPE E MODEL: CCD-TRV69E
TYPE F MODEL: CCD-TRV75/TRV75PK/TRV715

• SIGNAL PATH			
	REC	REC/PB	PB
Drum speed servo			
Drum phase servo			
Drum servo(speed and phase)			
Capstan speed servo			
Capstan servo(speed and phase)			

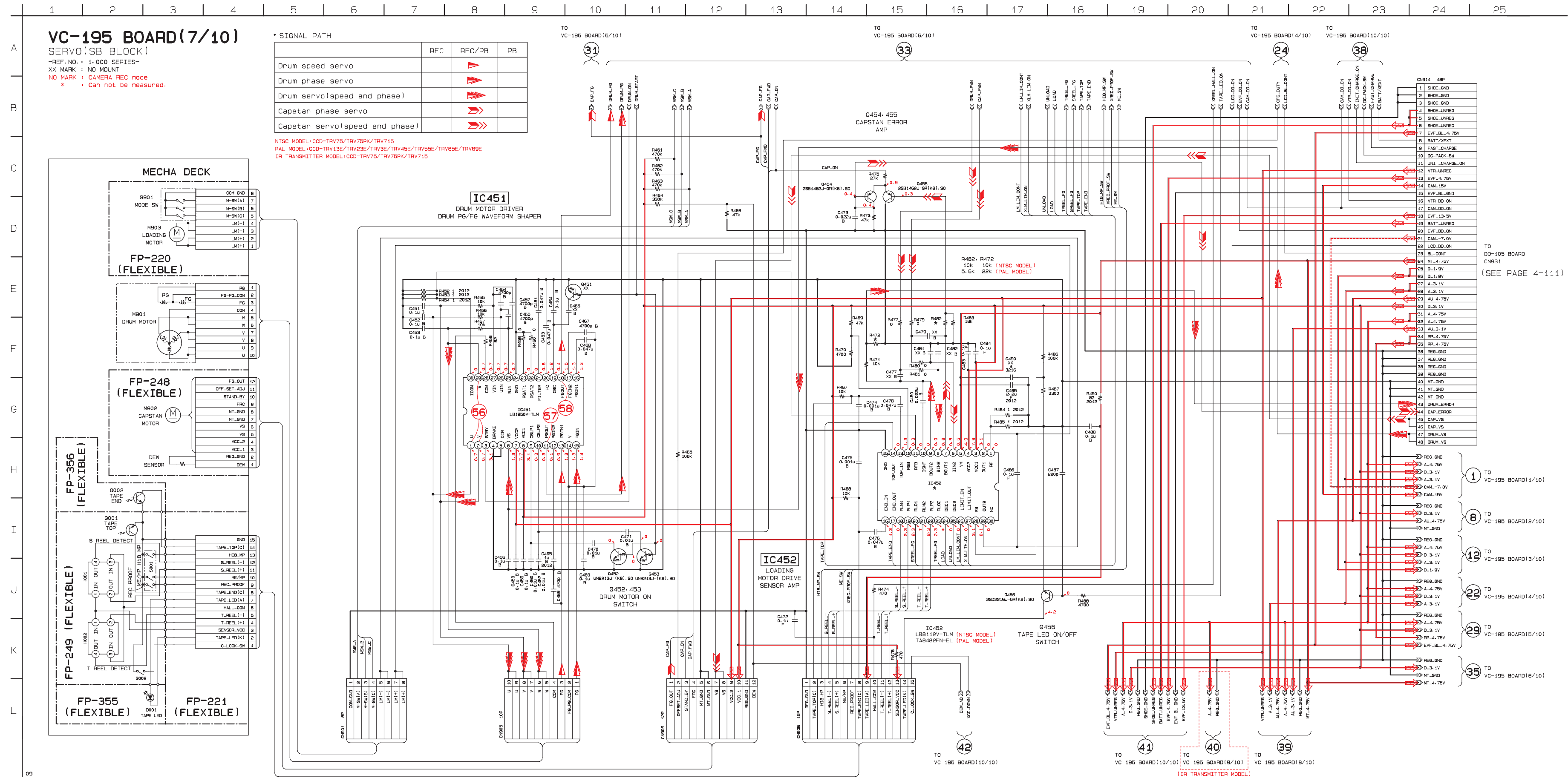


★ MARKED MOUNT TABLE							
Ref. No.	Mode 1	TYPE A	TYPE B	TYPE C	TYPE D	TYPE E	TYPE F
R917		22k	56k	56k	22k	22k	22k
R918		100k	56k	100k	100k	100k	100k
R919		100k	56k	47k	68k	100k	100k
R920			56k	100k	56k	10k	10k

TYPE A MODEL: CCD-TRV13E/TRV23E/TRV3E
TYPE B MODEL: CCD-TRV45E
TYPE C MODEL: CCD-TRV55E
TYPE D MODEL: CCD-TRV65E
TYPE E MODEL: CCD-TRV69E
TYPE F MODEL: CCD-TRV75/TRV75PK/TRV71

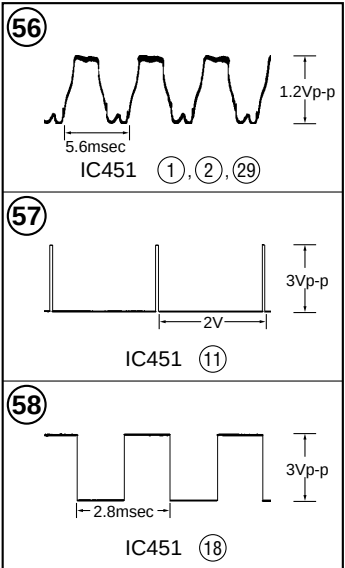
**CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/TRV65E/
TRV69E/TRV75/TRV75PK/TRV715**

- For schematic diagrams.
- Refer to page 4–11 for Printed Wiring Board.



VC-195 BOARD (7/10)

CAMERA REC

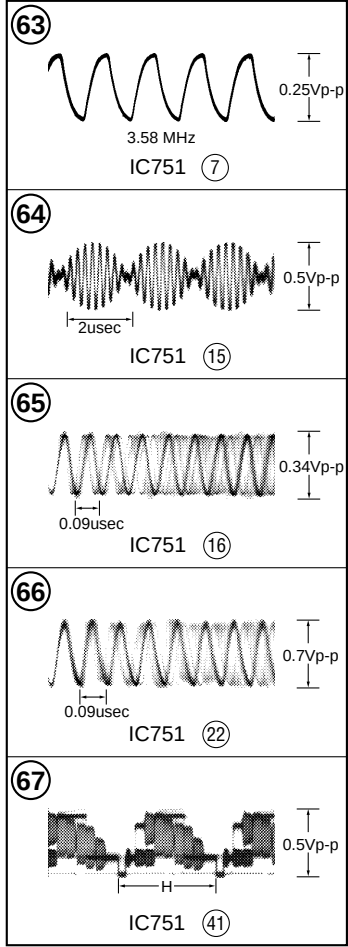


TO
DD-105 BOARD
CN931
(SEE PAGE 4-111)

- For schematic diagrams.
- Refer to page 4—11 for Printed Wiring Board.

VC-195 BOARD (9/10)

PB



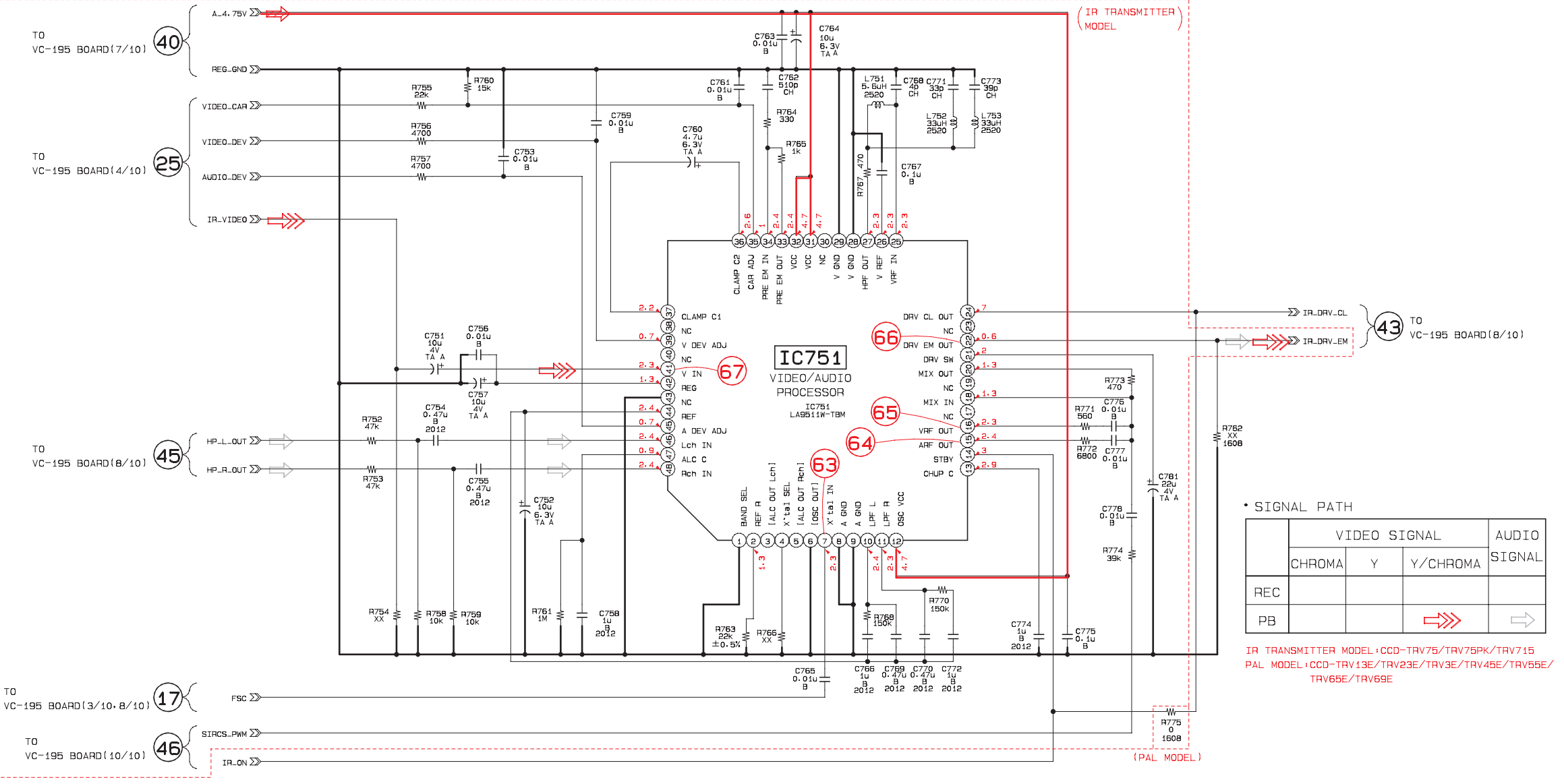
VC-195 BOARD (9/10)

IR TRANSMITTER (IR BLOCK)

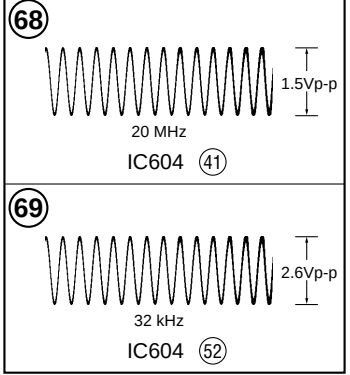
—REF. NO. : 1-000 SERIES—

XX MARK : NO MOUNT

NO MARK : CAMERA REC mode (LASER LINK ON)



VC-195 BOARD (10/10)



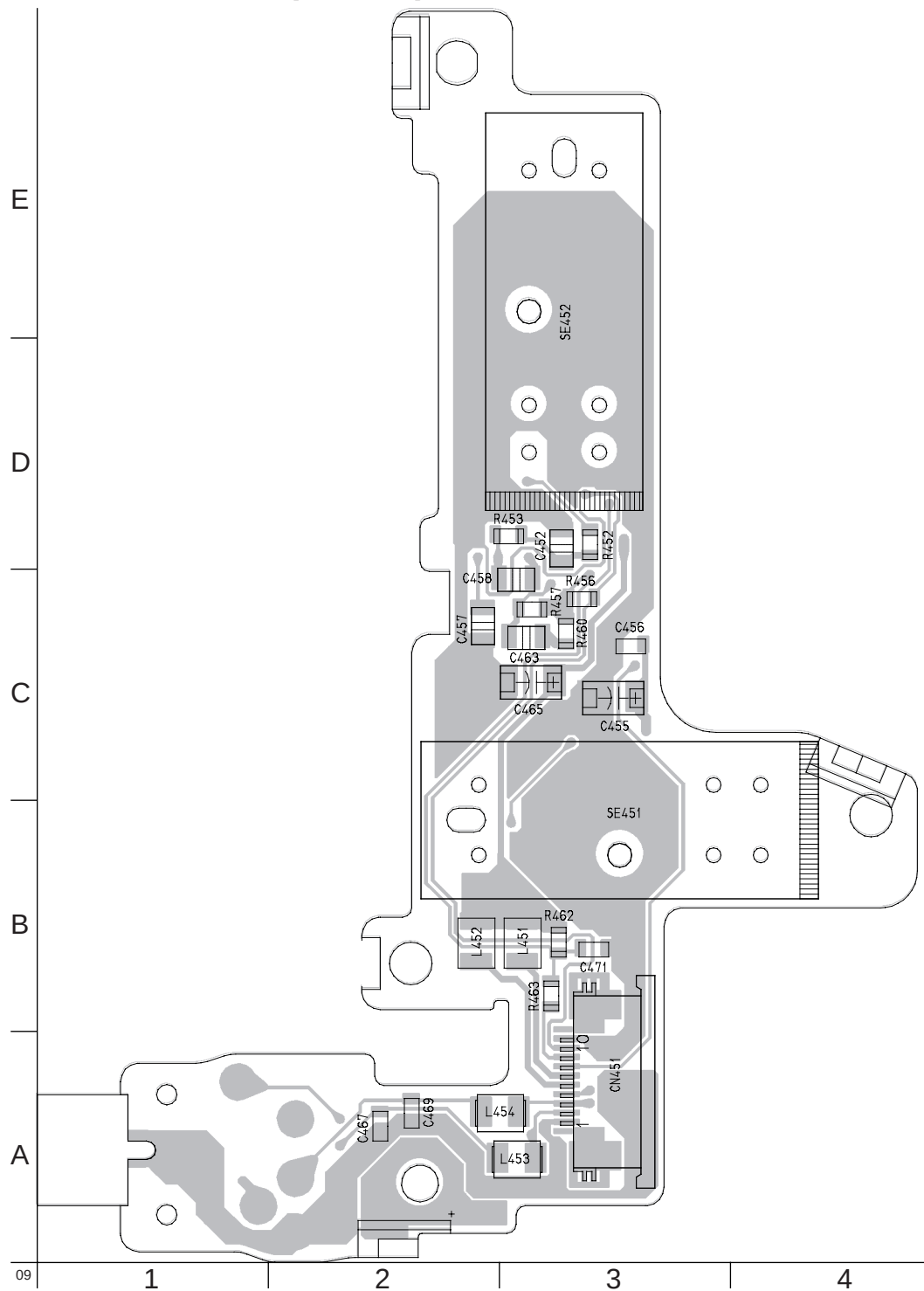


**CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/TRV65E/
TRV69E/TRV75/TRV75PK/TRV715**

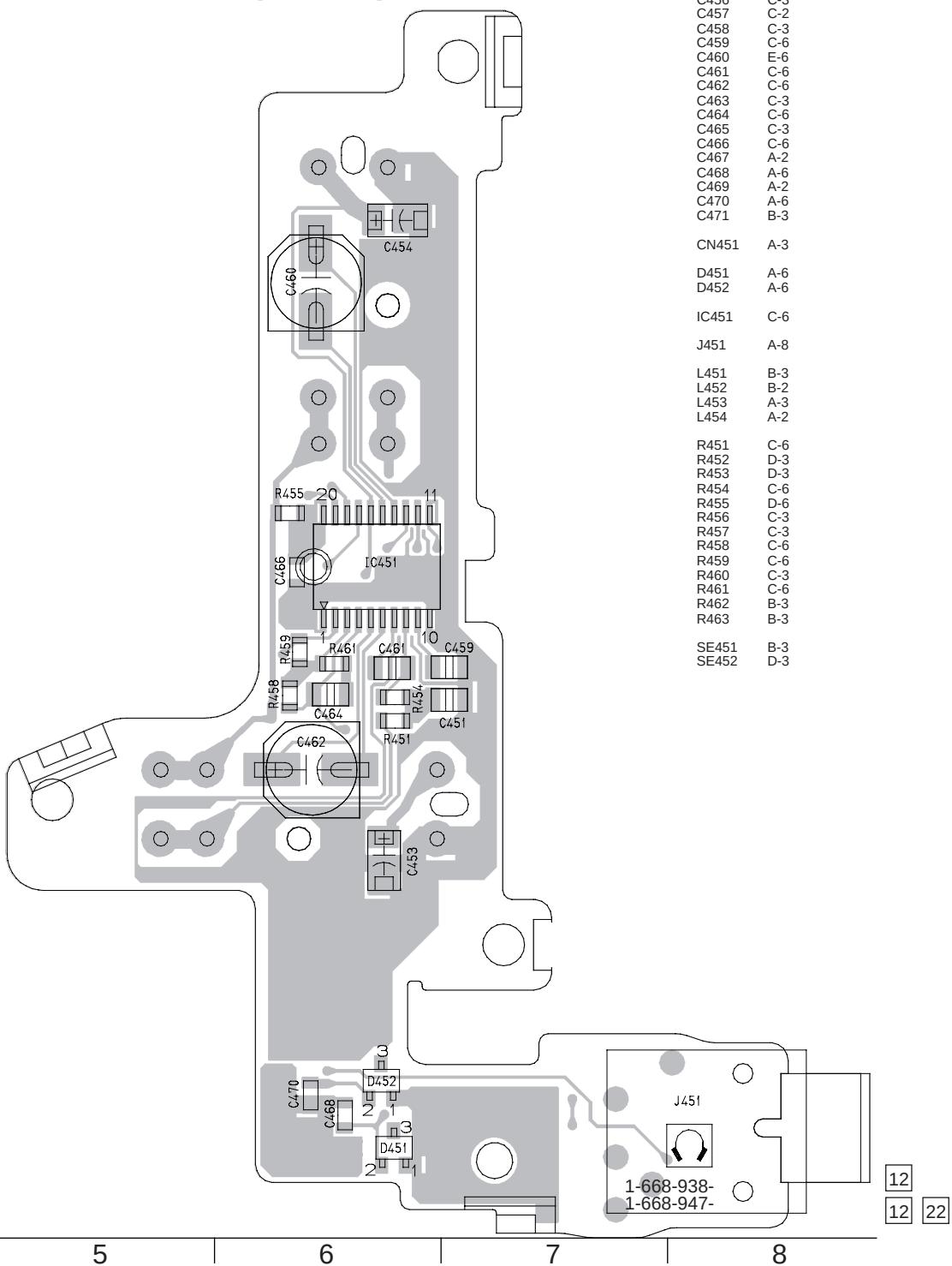
SE-66/67 (STEADY SHOT) (2.5 INCH LCD, 3 INCH/3.5 INCH LCD MODEL) PRINTED WIRING BOARD

– Ref No. SE-66 BOARD: 4,000 series, SE-67 BOARD: 9,000 series –

SE-67 BOARD (SIDE B)
SE-66 BOARD (SIDE B)



SE-67 BOARD (SIDE A)
SE-66 BOARD (SIDE A)



SE-66
SE-67 BOARD

C451	C-6
C452	D-3
C453	B-6
C454	E-6
C455	C-3
C456	C-3
C457	C-2
C458	C-3
C459	C-6
C460	E-6
C461	C-6
C462	C-6
C463	C-3
C464	C-6
C465	C-3
C466	C-6
C467	A-2
C468	A-6
C469	A-2
C470	A-6
C471	B-3

CN451	A-3
D451	A-6
D452	A-6
IC451	C-6
1451	A-8

L451	B-3
L452	B-2
L453	A-3
L454	A-2

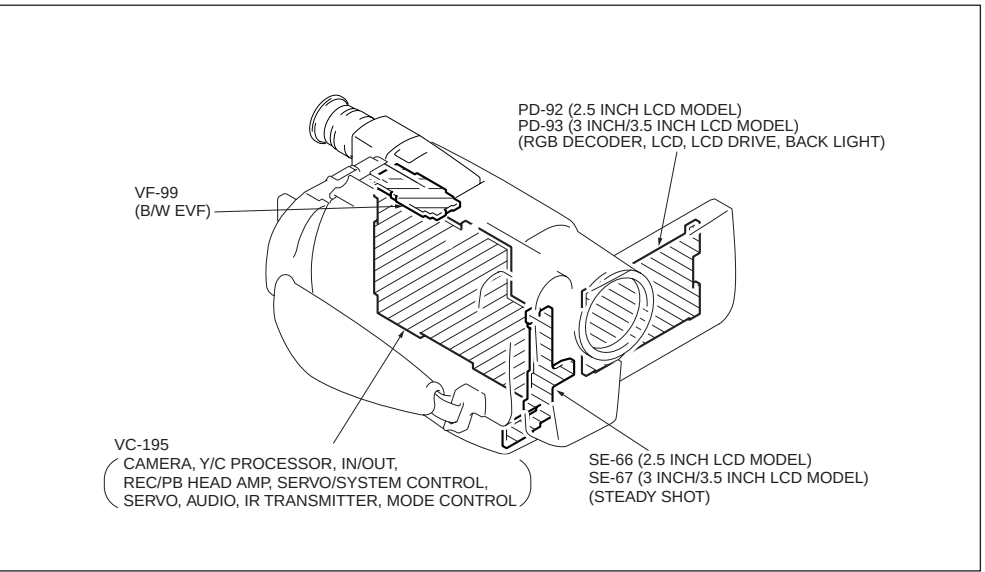
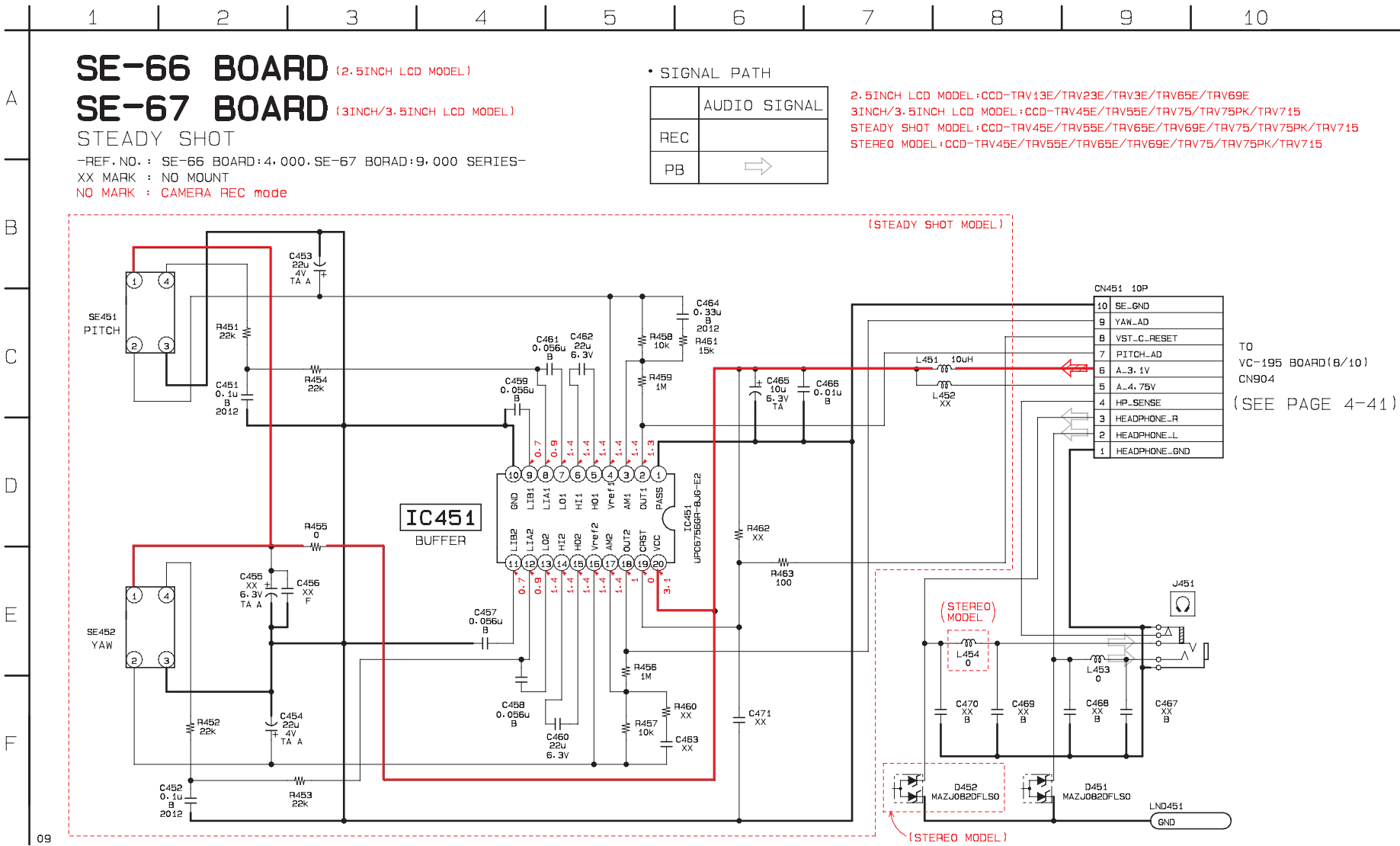
R451	C-6
R452	D-3
R453	D-3
R454	C-6
R455	D-6
R456	C-3
R457	C-3
R458	C-6
R459	C-6
R460	C-3
R461	C-6
R462	B-3
R463	B-3

SE451	B-3
SE452	D-3

- For Printed Wiring Boards.

There are few cases that the part isn't mounted in this model is printed on this diagram.

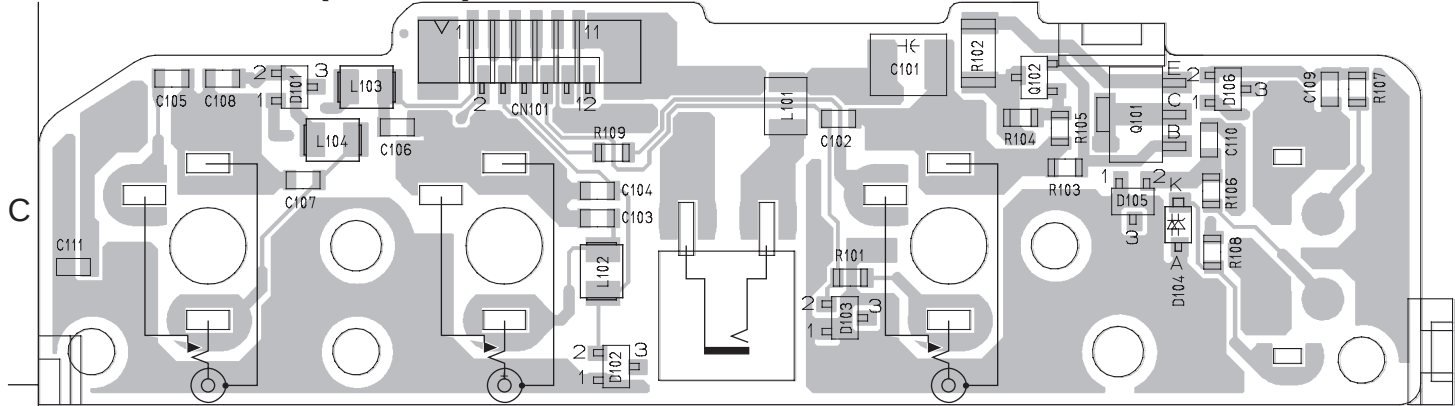
- Chip diode



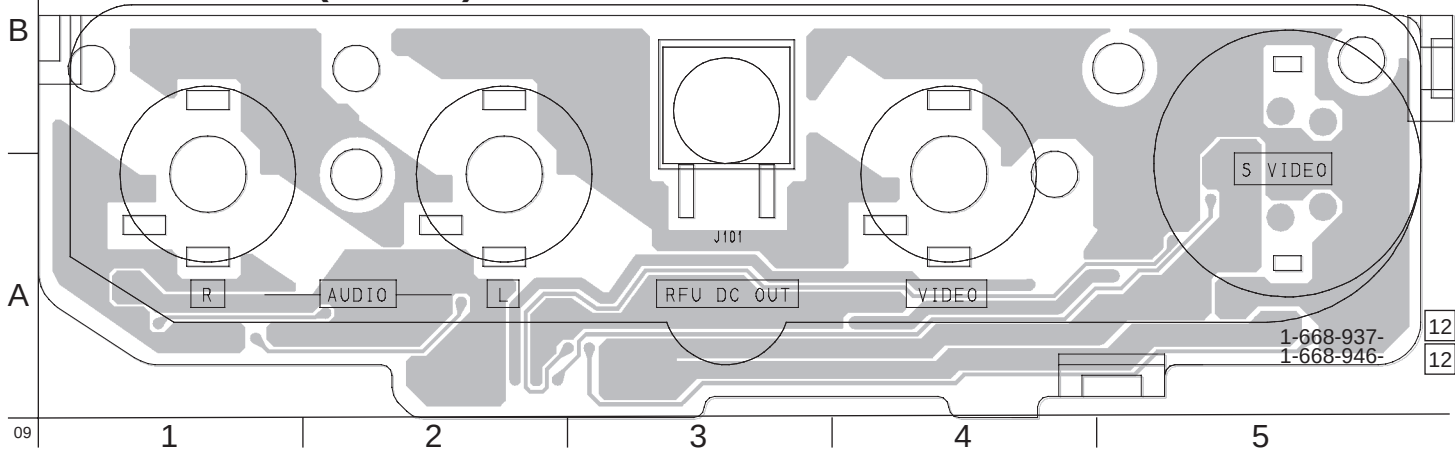
PJ-83/84 (AV IN/OUT) (2.5 INCH LCD, 3 INCH/3.5 INCH LCD MODEL) PRINTED WIRING BOARD

— Ref No. PJ-83 BOARD: 4,000 series, PJ-84 BOARD: 9,000 series —

PJ-84 BOARD (SIDE B)
PJ-83 BOARD (SIDE B)



PJ-84 BOARD (SIDE A)
PJ-83 BOARD (SIDE A)



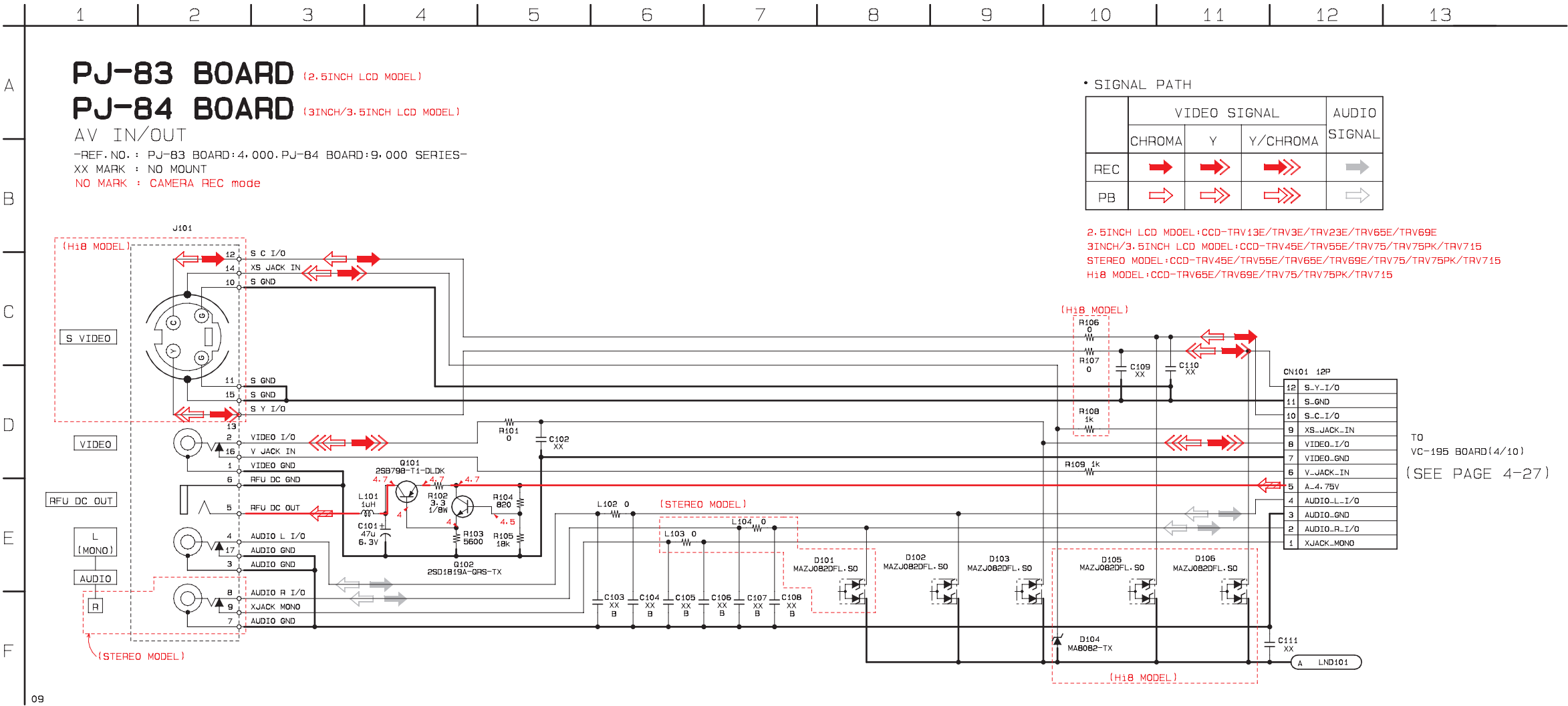
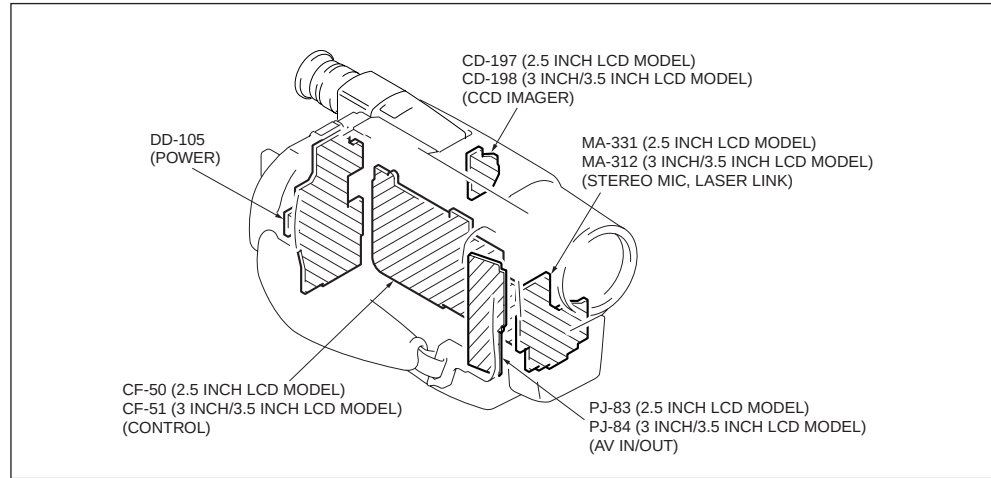
PJ-83
PJ-84 BOARD

C101	C-4
C102	C-4
C103	C-3
C104	C-3
C105	C-1
C106	C-2
C107	C-1
C108	C-1
C109	C-5
C110	C-5
C111	C-1
CN101	C-2
D101	C-1
D102	C-3
D103	C-3
D105	C-5
D106	C-5
D107	C-5
J101	A-3
L101	C-3
L102	C-3
L103	C-2
L104	C-2
Q101	C-5
Q102	C-4
R101	C-4
R102	C-4
R103	C-4
R104	C-4
R105	C-4
R106	C-5
R107	C-5
R108	C-5
R109	C-3

• For Printed Wiring Boards.

There are few cases that the part isn't mounted in this model is printed on this diagram.

• Chip diode



• SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	→	→	→	→
PB	→	→	→	→

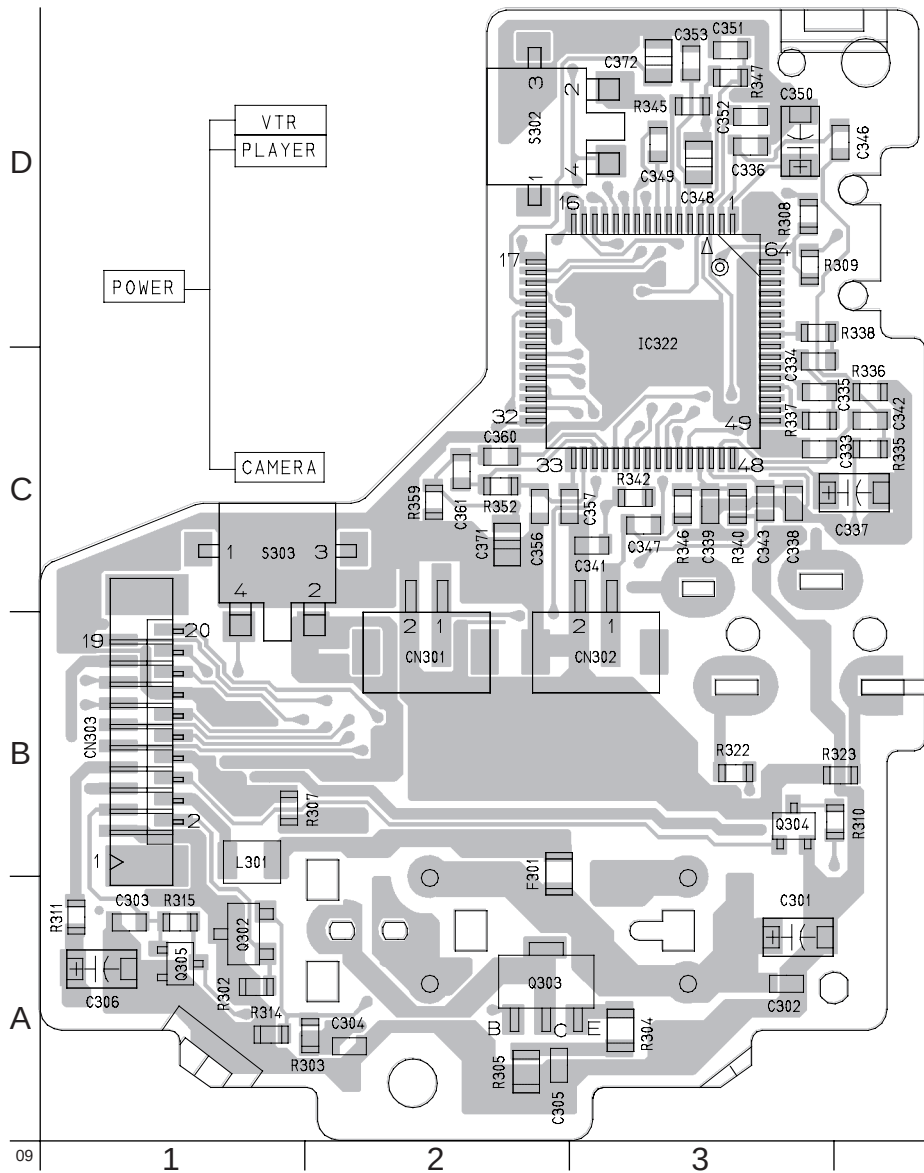
2.5 INCH LCD MODEL : CCD-TRV13E/TRV3E/TRV23E/TRV65E/TRV69E
3 INCH/3.5 INCH LCD MODEL : CCD-TRV45E/TRV55E/TRV75/TRV75PK/TRV715
STEREO MODEL : CCD-TRV45E/TRV55E/TRV65E/TRV69E/TRV75/TRV75PK/TRV715
H1B MODEL : CCD-TRV65E/TRV69E/TRV75/TRV75PK/TRV715

TO
VC-195 BOARD (4/10)
(SEE PAGE 4-27)

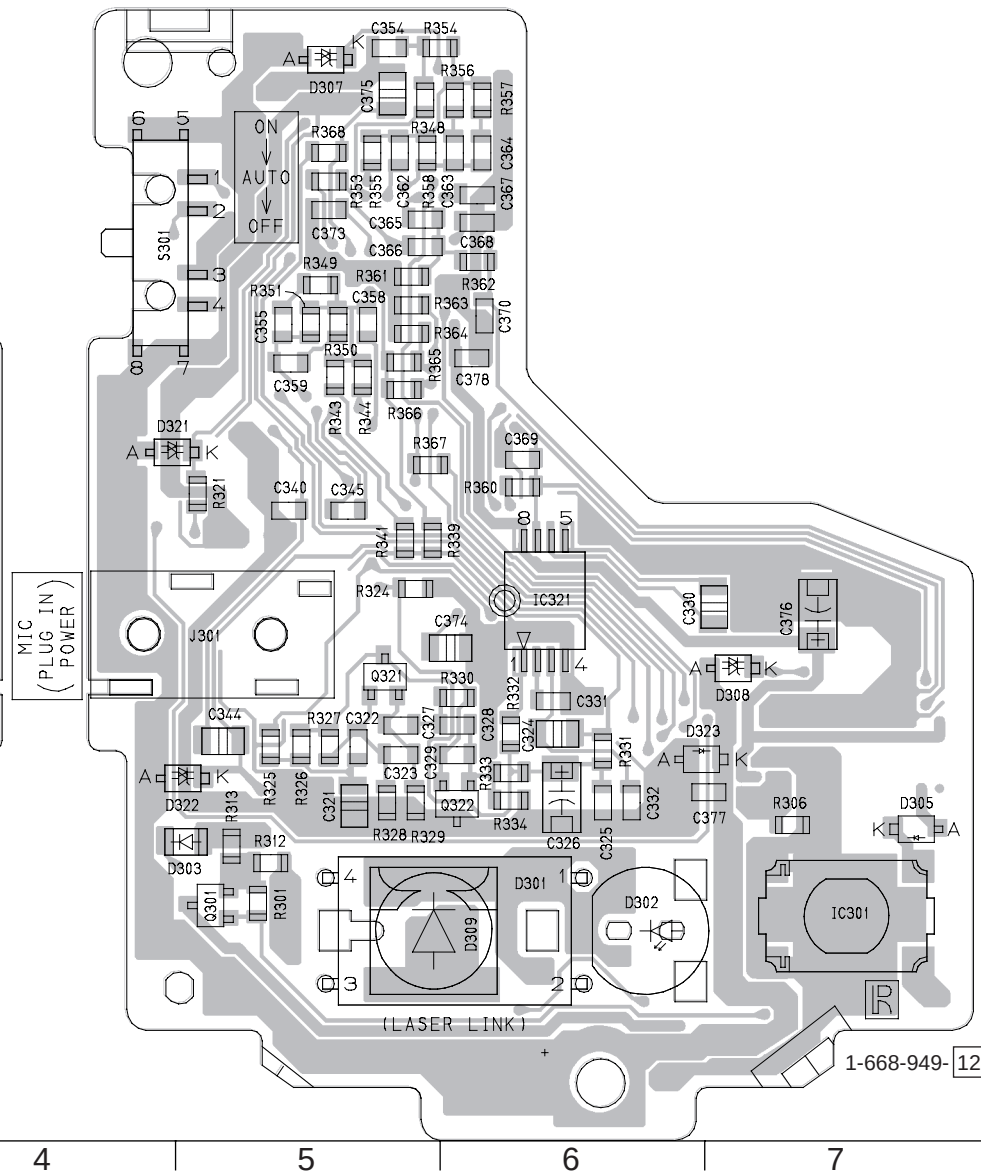
CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/TRV65E/
TRV69E/TRV75/TRV75PK/TRV715

MA-331 (STEREO MIC, LASER LINK) (2.5 INCH LCD MODEL) PRINTED WIRING BOARDS
— Ref No. MA-331 BOARD: 4,000 series —

MA-331 BOARD (SIDE B)

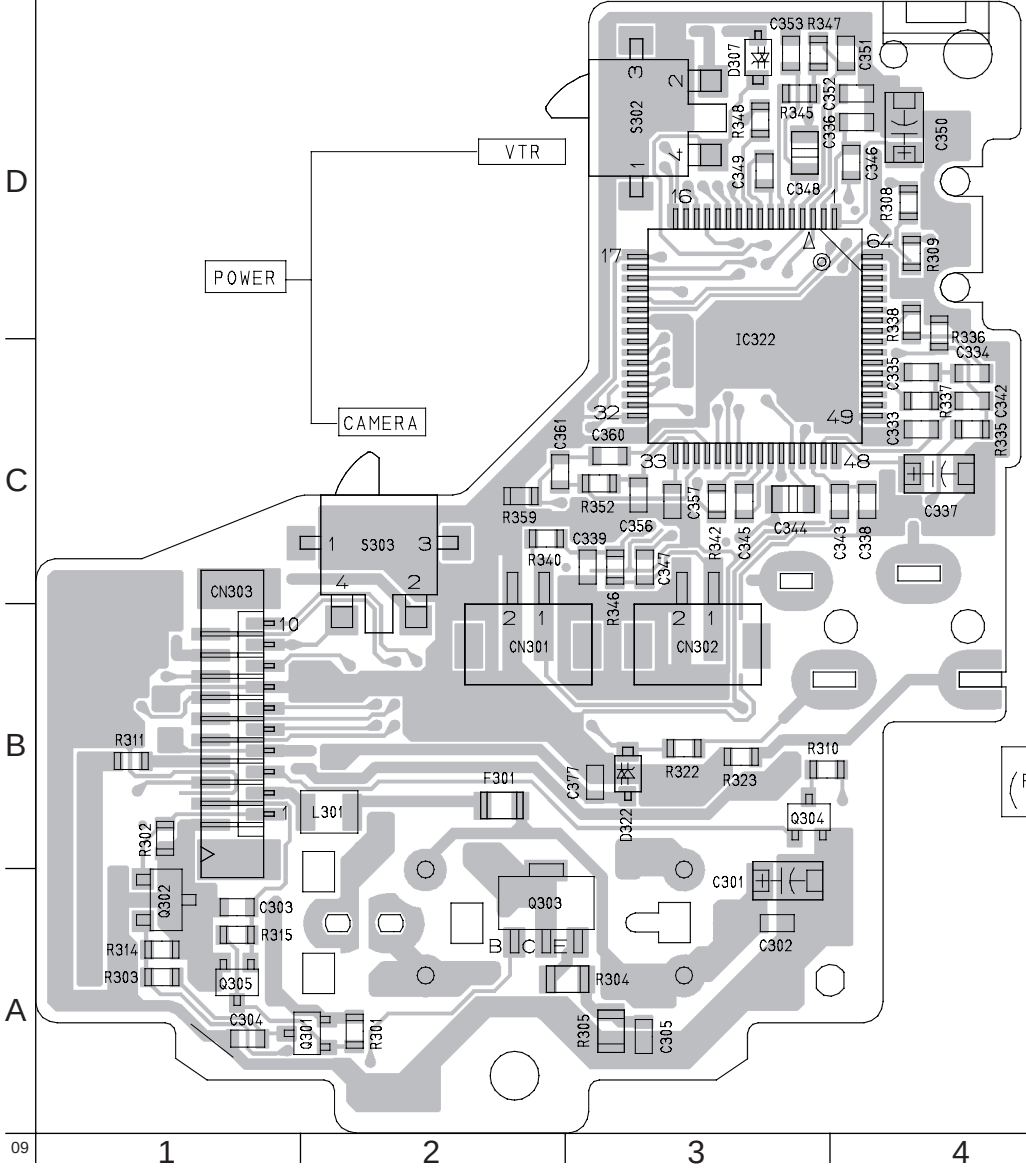


MA-331 BOARD (SIDE A)

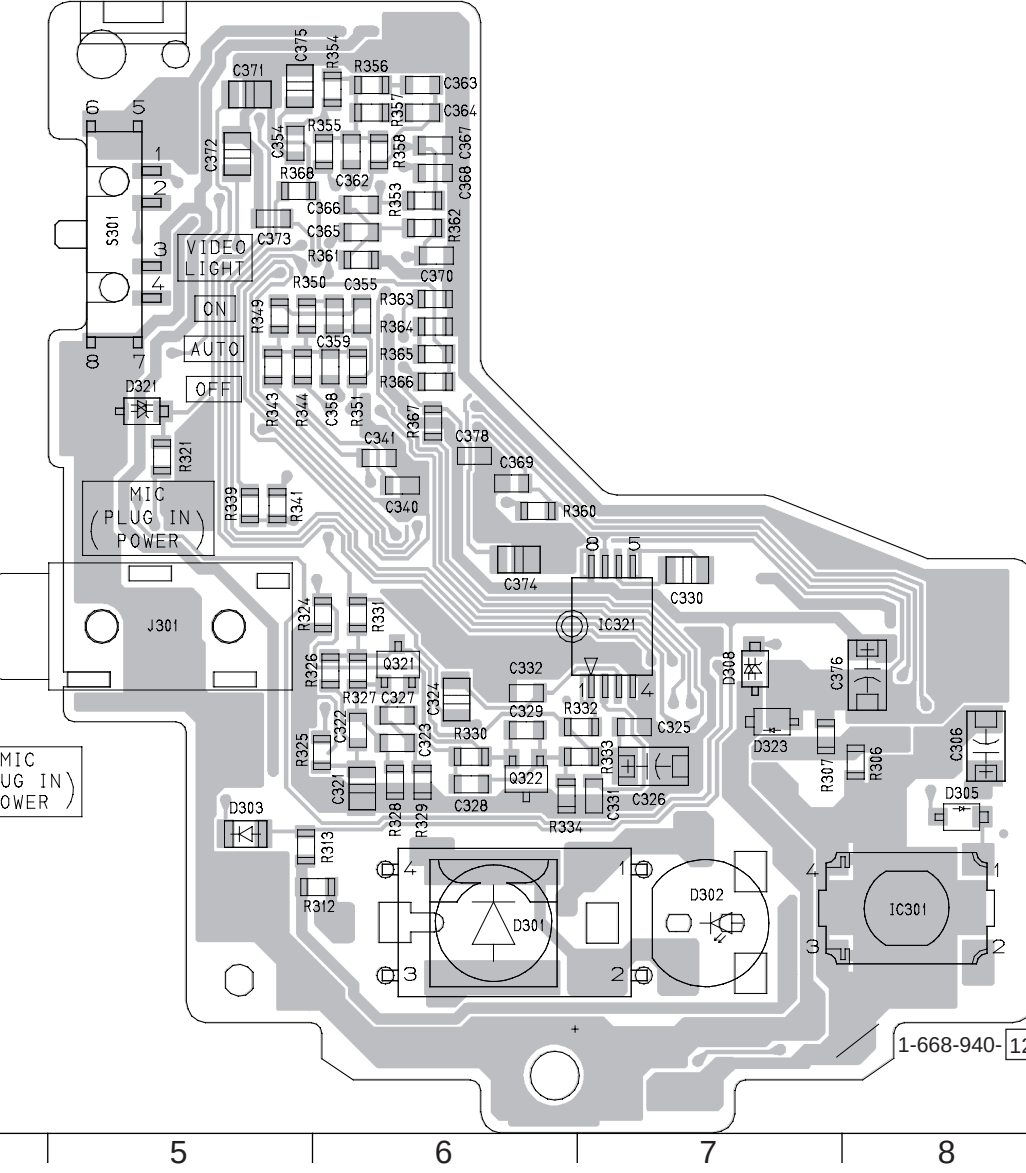


MA-312 (STEREO MIC, LASER LINK) (3 INCH/3.5 INCH LCD MODEL) PRINTED
WIRING BOARD
— Ref No. MA-312 BOARD: 9,000 series —

MA-312 BOARD (SIDE B)



MA-312 BOARD (SIDE A)



MA-331 BOARD

C301	A-3	C344	B-5	C373	D-5	Q301	A-5	R327	B-5	R356	D-6
C302	A-3	C345	C-5	C374	B-6	Q302	A-1	R328	B-5	R357	D-6
C303	A-1	C346	D-4	C375	D-5	Q303	A-2	R329	B-5	R358	D-6
C304	A-2	C347	C-3	C376	B-7	Q304	B-3	R330	B-6	R359	C-2
C305	A-2	C348	D-3	C377	B-6	Q305	A-1	R331	B-6	R360	C-6
C306	A-1	C349	D-3	C378	C-6	Q321	B-5	R332	B-6	R361	D-5
C321	B-5	C350	D-3			Q322	B-6	R333	B-6	R362	D-6
C322	B-5	C351	D-3	CN301	B-2			R334	B-6	R363	D-5
C323	B-5	C352	D-3	CN302	B-3	R301	A-5	R335	C-4	R364	D-5
C324	B-6	C353	D-3	CN303	B-1	R302	A-1	R336	C-4	R365	C-5
C325	B-6	C354	D-5			R303	A-2	R337	C-3	R366	C-5
C326	B-6	C355	D-5	D301	A-6	R304	A-3	R338	D-3	R367	C-5
C327	B-5	C356	C-2	D302	A-6	R305	A-2	R339	C-5	R368	D-5
C328	B-6	C357	C-2	D303	B-5	R306	B-7	R340	C-3		
C329	B-6	C358	D-5	D305	B-7	R307	B-1	R341	C-3		
C330	C-7	C359	C-5	D307	D-5	R308	D-3	R342	C-3		
C331	B-6	C360	C-2	D308	B-7	R309	D-3	R343	C-5		
C332	B-6	C361	C-2	D309	A-5	R310	B-3	R344	C-5		
C333	C-3	C362	D-5	D322	B-5	R311	A-1	R345	D-3		
C334	C-3	C363	D-6	D323	B-6	R312	B-5	R346	C-3		
C335	C-3	C364	D-6			R313	B-5	R347	D-3		
C336	D-3	C365	D-5	IC301	A-7	R314	A-1	R348	D-5		
C337	C-4	C366	D-5	IC321	C-6	R315	A-1	R349	D-5		
C338	C-3	C367	D-6	IC322	D-3	R321	C-5	R350	D-5		
C339	C-3	C368	D-6			R322	B-3	R351	D-5		
C340	A-6	C369	C-6	J310	B-5	R323	A-4	R352	C-2		
C341	C-3	C370	D-6			R324	C-5	R353	D-5		
C342	C-4	C371	C-2	L301	B-1	R325	B-5	R354	D-5		
C343	C-3	C372	D-3			R326	B-5	R355	D-5		

• For Printed Wiring Boards.

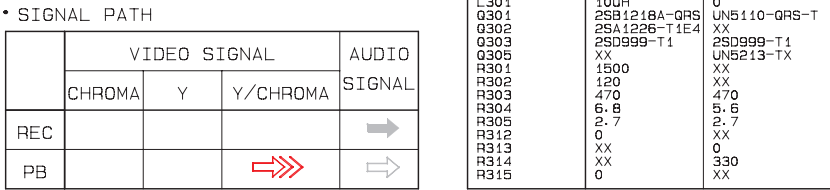
There are few cases that the part isn't mounted in this model is printed on this diagram.

• Chip transistor



MA-312 BOARD

C301	A-3	C345	C-3	C375	D-5	Q302	A-1	R329	B-6	R359	C-2
C302	A-3	C346	D-4	C376	B-8	Q303	A-2	R330	B-6	R360	C-6
C303	A-1	C347	C-3	C377	B-3	Q304	B-3	R331	B-6	R361	D-6
C304	A-1	C348	D-3	C378	C-6	Q305	A-1	R332	B-7	R362	D-6
C305	A-3	C349	D-3			Q321	B-6	R333	B-7	R363	D-6
C306	B-6	C350	D-4	CN301	B-2	Q322	B-6	R334	B-6	R364	D-6
C321	B-6	C351	D-4	CN302	B-3			R335	C-4	R365	C-6
C322	B-6	C352	D-4	CN303	B-1	R301	A-2	R336	D-4	R366	C-6
C323	B-6	C353	D-3			R302	B-1	R337	C-4	R367	C-6
C324	B-6	C354	D-5	D301	A-6	R303	A-1	R338	D-4	R368	D-5
C325	B-7	C355	D-6	D302	A-7	R304	A-3	R339	C-5		
C326	B-7	C356	C-3	D303	B-5	R305	A-3	R340	C-2	S301	D-5
C327	B-6	C357	C-3	D305	B-8	R306	B-8	R341	C-5	S302	D-3
C328	B-6	C358	C-6	D307	D-3	R307	B-7	R342	C-3	S303	C-2
C329	B-6	C359	D-6	D308	B-7	R308	D-4	R343	C-5		
C330	C-7	C360	C-3	D321	C-5	R309	D-4	R344	C-5		
C331	B-7	C361	C-2	D322	B-3	R310	B-3	R345	D-3		
C332	B-6	C362	D-6	D323	B-7	R311	B-1	R346	C-3		
C333	C-4	C363	D-6			R312	A-6	R347	D-3		
C334	C-4	C364	D-6	F301	B-2	R313	B-6	R348	D-3		
C335	C-4	C365	D-6			R314	A-1	R349	D-5		
C336	D-4	C366	D-6	IC301	A-8	R315	A-1	R350	D-5		
C337	C-4	C367	D-6	IC321	B-7	R321	C-5	R351	C-6		
C338	C-4	C368	D-6	IC332	C-3	R322	B-3	R352	D-6		
C339	C-3	C369	C-6			R323	B-3	R353	C-3		
C340	C-6	C370	D-6	J301	B-5	R324	B-6	R354	D-6		
C341	C-6	C371	D-5			R325	B-6	R355	D-6		
C342	C-4	C372	D-5	L301	B-2	R326	B-6	R356	D-6		
C343	C-4	C373	D-6			R327	B-6	R357	D-6		
C344	C-3	C374	C-6	Q301	A-2	R328	B-6	R358	D-6		



Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.	Note: Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
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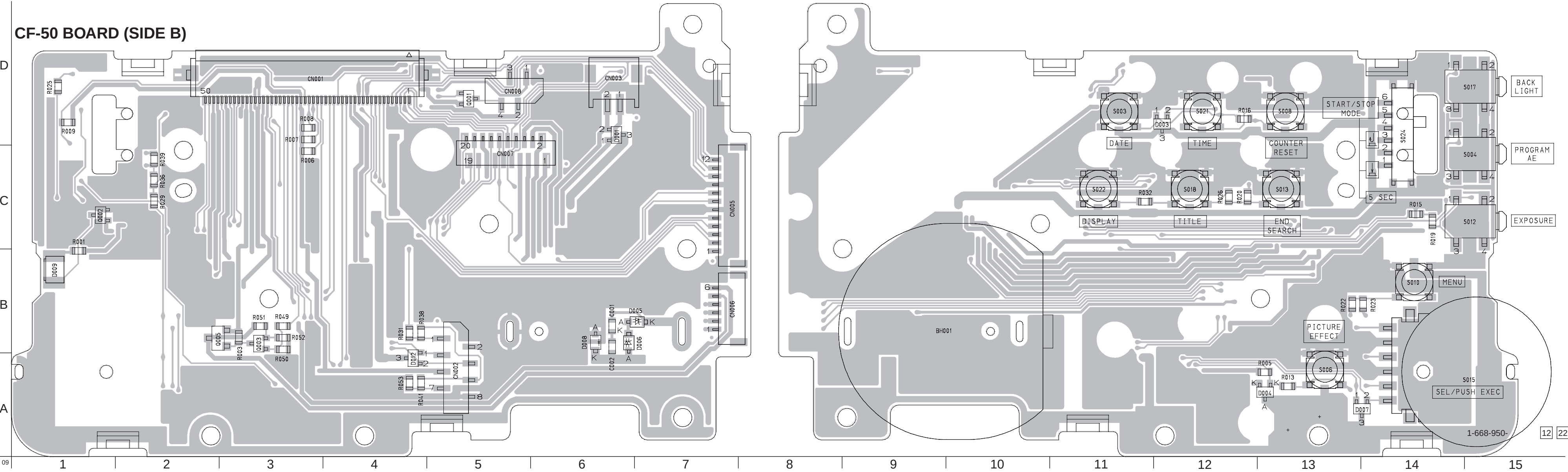
2. 51NCH_LCD_MODEL:CCD-TRV13E/TRV23E/TRV3E/TRV65E/TRV69E
31NCH/3.51NCH_MODEL:CCD-TRV45E/TRV65E/TRV75/TRV75K/TRV715
STEREO_MODEL:CCD-TRV45E/TRV65E/TRV69E/TRV75/TRV75K/TRV715
MONAURAL_MODEL:CCD-TRV13E/TRV23E/TRV3E
IR_TRANSMITTER/NIGHT_SHOT_MODEL:CCD-TRV75/TRV75K/TRV715
NIGHT_SHOT_MODEL:CCD-TRV23E/TRV45E/TRV65E/TRV69E/TRV75
VTR_REC_MODEL:CCD-TRV45E/TRV65E/TRV69E [Chinese]/TRV75/TRV75K/TRV715
PLAYER_MODEL:CCD-TRV13E/TRV23E/TRV3E/TRV65E [EXCEPT Chinese]/TRV69E
REMOTE_COMMANDER_MODEL:EXCEPT CCD-TRV13E/TRV3E

CF-50 (CONTROL (2.5 INCH LCD MODEL)) PRINTED WIRING BOARD

– Ref No. CF-50 BOARD: 4,000 series –

CF-50 BOARD (SIDE A)

CF-50 BOARD (SIDE B)

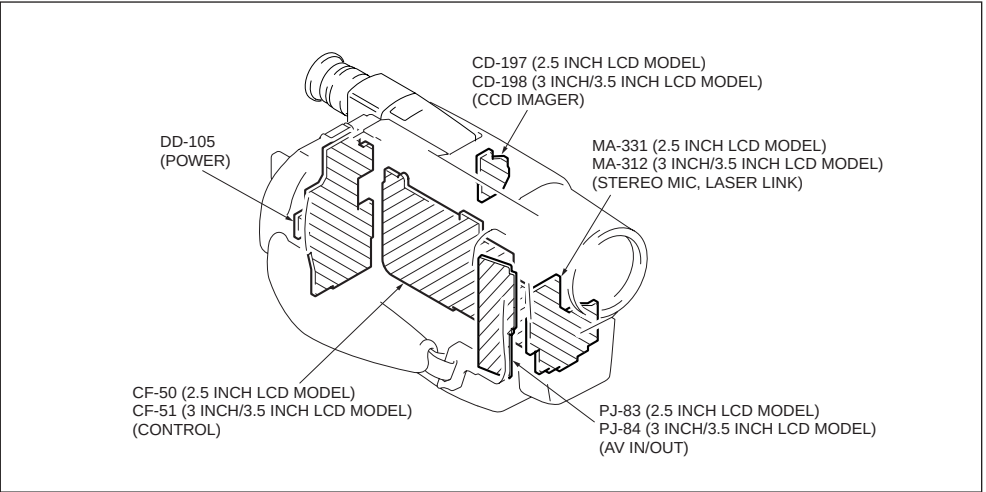
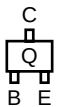


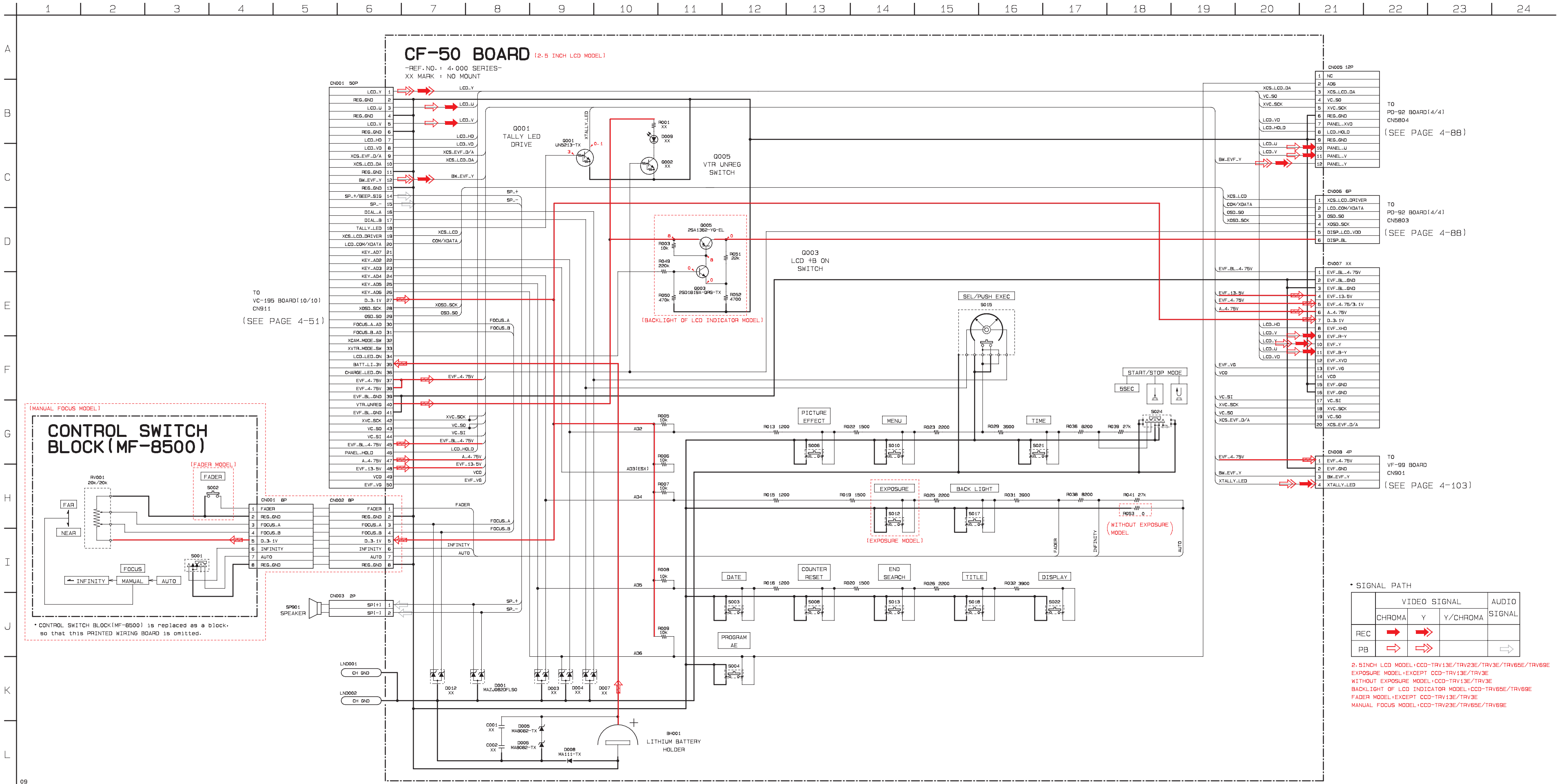
- **For Printed Wiring Boards.**

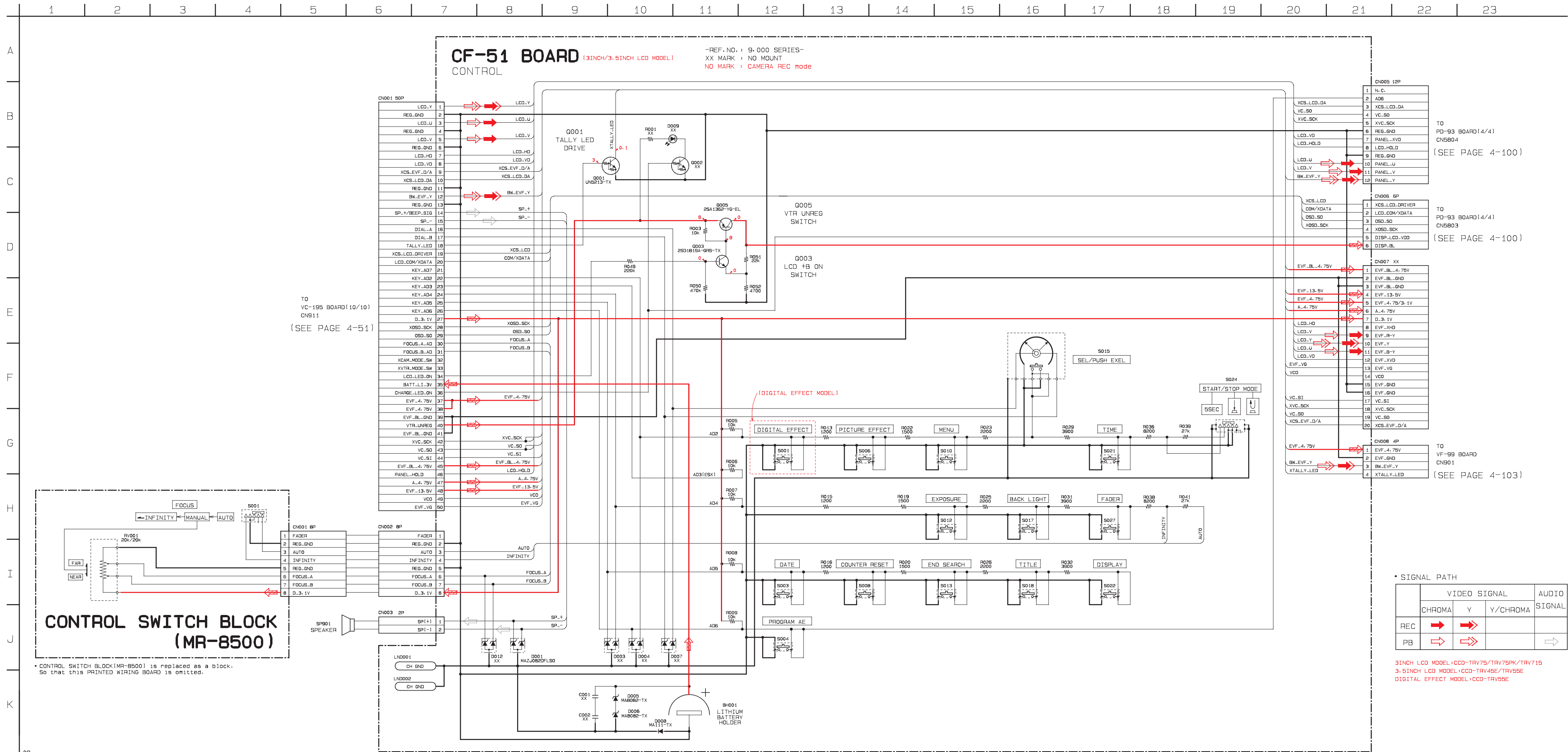
There are few cases that the part isn't mounted in this model is printed on this diagram.

- Chip transistor

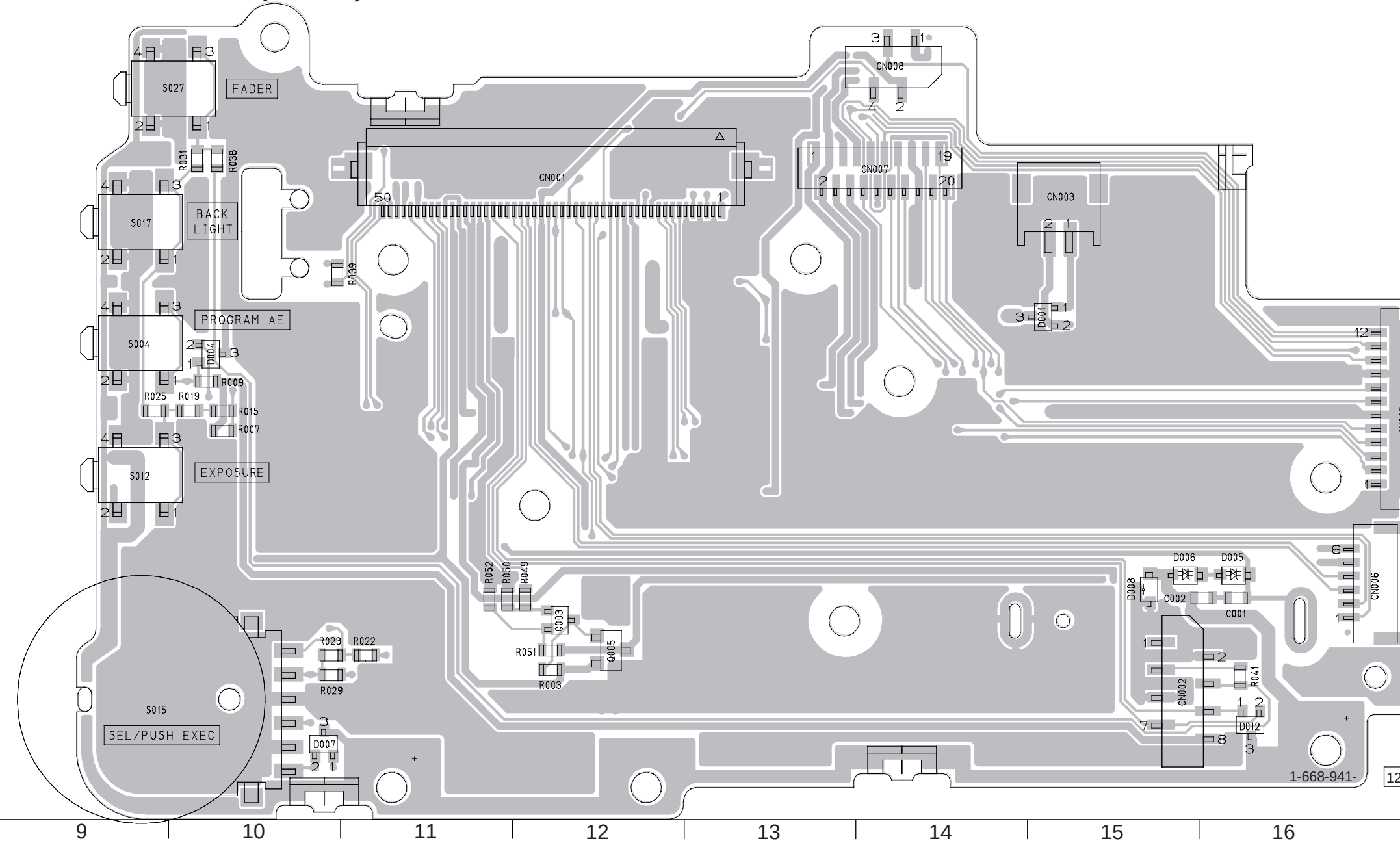
Chip diode







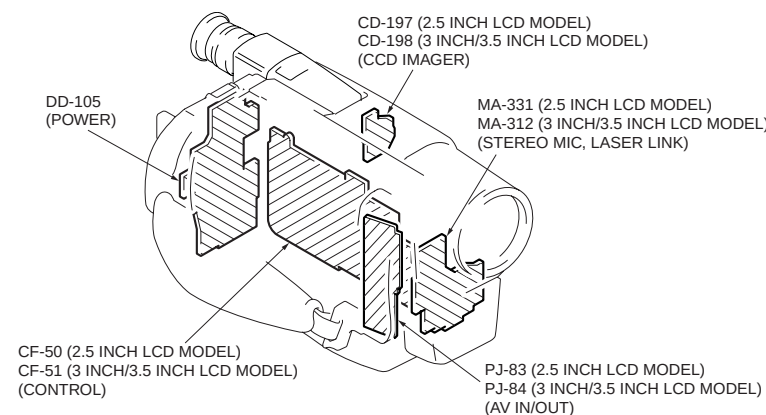
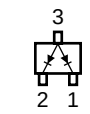
CF-51 BOARD (SIDE A)

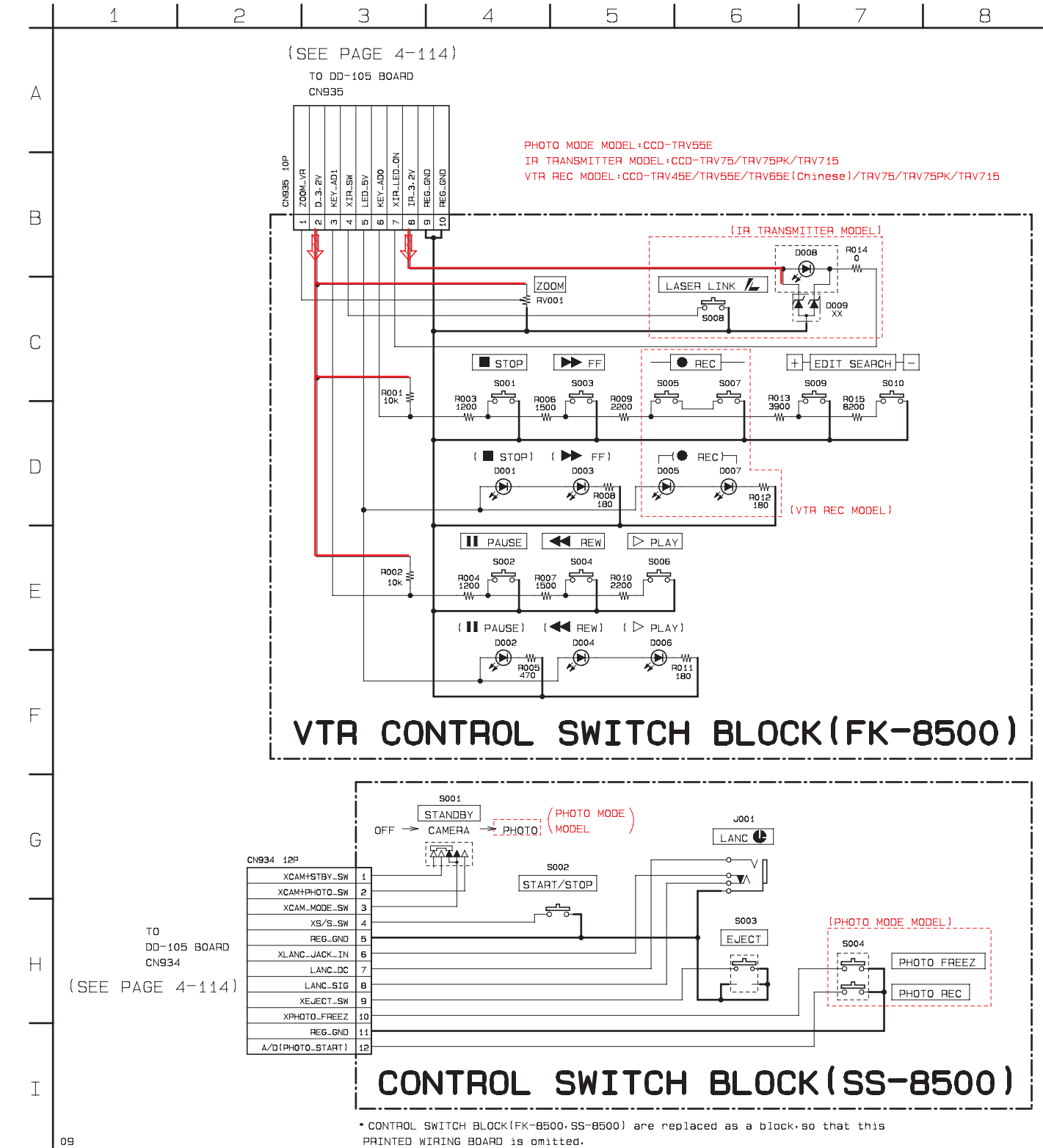


BH001	B-2	R031	D-10
		R038	D-5
C001	B-16	R038	D-10
C002	B-15	R039	D-10
		R041	A-16
CN001	D-12	R049	B-12
CN002	A-15	R050	B-11
CN003	C-15	R051	A-12
CN005	C-16	R052	B-11
CN006	B-16		
CN007	D-14	S001	B-5
CN008	E-14	S002	C-4
		S003	D-4
	C-15	S004	C-9
D001	D-5	S006	B-12
D004	C-10	S008	D-6
D005	B-16	S010	B-7
D006	B-15	S012	C-9
D007	D-10	S013	C-6
D008	B-15	S015	A-9
D009	B-8	S017	D-9
D012	A-16	S018	C-5
		S021	D-6
Q001	E-5	S024	D-7
Q002	B-8	S025	C-9
Q003	B-12	S027	E-10
Q005	A-12		
R001	B-8		
R003	A-12		
R005	B-5		
R006	D-6		
R007	C-10		
R008	D-6		
R009	C-10		
R013	B-5		
R015	C-10		
R018	D-6		
R019	C-10		
R020	D-6		
R022	A-11		
R023	A-10		
R029	A-10		

There are few cases that the part isn't mounted in this model is printed on this diagram.

Chip diode

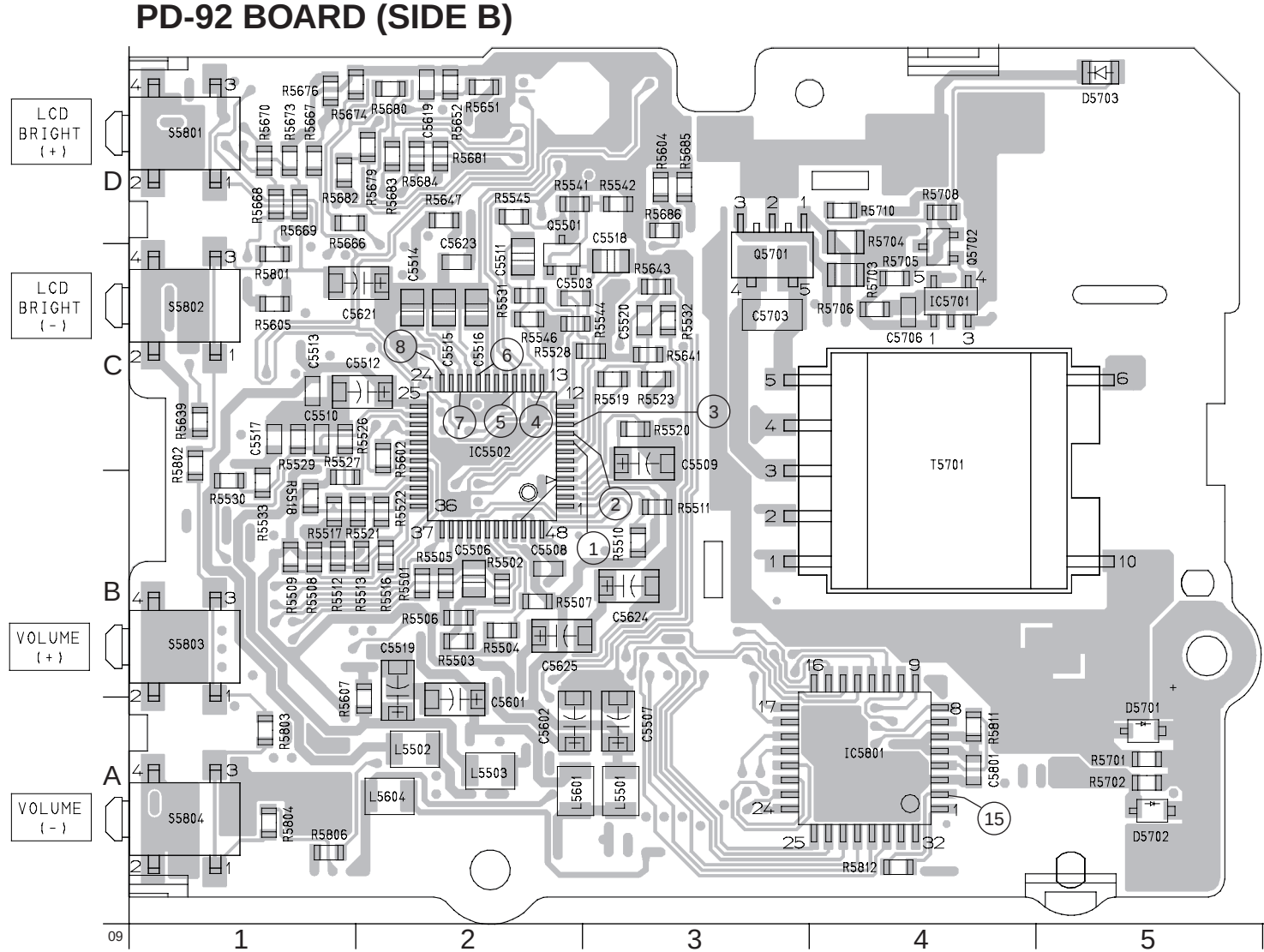




PD-92 BOARD

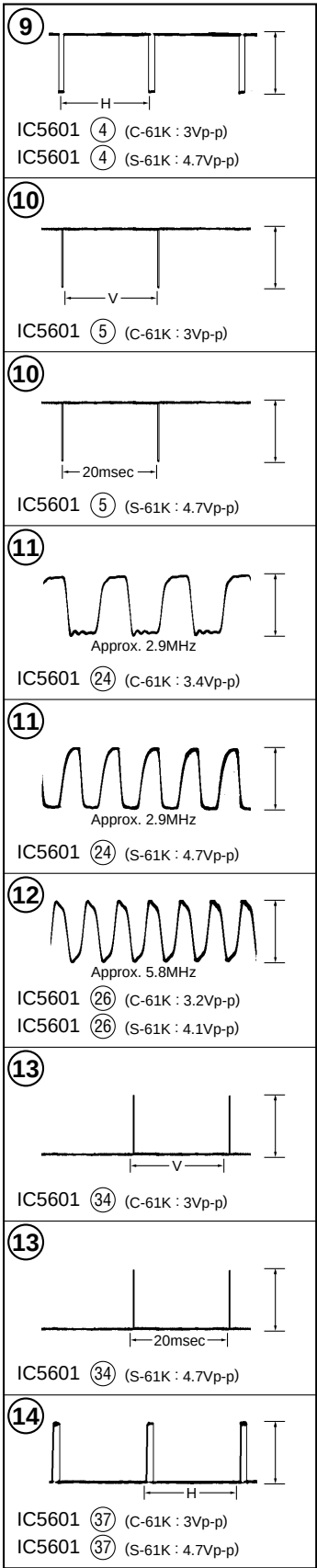
C5501	B-10	D5604	C-10	R5542	D-3	R5673	D-1
C5502	B-10	D5701	C-5	R5544	C-2	R5674	D-2
C5503	C-2	D5702	C-5	R5546	C-2	R5676	D-1
C5504	C-10	D5703	D-5	R5546	D-2	R5678	D-9
C5505	C-10	D5704	C-7	R5602	D-2	R5679	D-2
C5506	B-2	R5603	D-8	R5680	D-2	R5681	D-2
C5507	C-3	IC5501	B-10	R5604	C-1	R5681	D-2
C5508	B-2	IC5502	C-2	R5605	D-3	R5682	D-1
C5509	C-3	IC5501	C-9	R5606	C-10	R5683	D-2
C5510	C-1	IC5602	C-8	R5607	A-2	R5684	D-2
C5511	C-2	IC5701	C-4	R5609	C-9	R5685	D-3
C5512	C-1	IC5801	C-4	R5610	B-10	R5686	D-3
C5513	C-1	R5612	C-9	R5611	C-9	R5688	C-9
C5514	C-2	L5501	C-3	R5614	C-9	R5692	C-9
C5515	C-2	L5502	A-2	R5615	C-9	R5694	B-9
C5516	C-2	L5503	A-2	R5616	B-10	R5695	B-9
C5517	C-1	L5601	A-2	R5617	B-9	R5695	D-10
C5518	C-3	L5603	C-9	R5618	C-9	R5697	C-10
C5519	B-2	L5604	A-2	R5619	B-9	R5698	B-9
C5520	C-3	L5605	C-9	R5620	B-9	R5698	D-9
C5601	A-2	L5701	C-7	R5621	C-9	R5701	C-5
C5602	A-2	Q5501	C-2	R5622	B-8	R5702	C-5
C5603	B-10	Q5601	B-9	R5623	B-8	R5703	C-4
C5604	C-9	Q5602	B-9	R5624	B-9	R5704	C-4
C5605	C-9	Q5603	B-10	R5625	C-10	R5705	C-4
C5606	B-10	Q5604	C-10	R5626	C-9	R5706	C-4
C5607	B-9	Q5605	C-8	R5627	C-7	R5707	C-7
C5608	C-9	Q5606	C-9	R5628	C-10	R5708	D-4
C5609	B-10	Q5607	C-9	R5629	B-9	R5709	D-7
C5610	C-9	Q5608	C-8	R5630	B-9	R5710	D-4
C5611	B-8	Q5609	B-9	R5631	C-9	R5801	C-1
C5612	C-10	Q5610	B-9	R5632	B-9	R5802	C-1
C5613	B-8	Q5611	C-3	R5633	B-9	R5803	A-1
C5614	C-10	Q5612	C-4	R5634	C-10	R5804	A-1
C5615	C-10	Q5613	C-4	R5635	C-10	R5805	C-6
C5616	C-9	R5501	B-2	R5636	B-10	R5806	A-1
C5617	D-9	R5502	B-2	R5637	C-10	R5807	B-7
C5618	D-2	R5503	B-2	R5638	C-10	R5808	B-9
C5619	D-10	R5504	B-2	R5639	C-3	R5809	C-7
C5620	C-10	R5505	B-2	R5640	D-10	R5810	B-9
C5621	C-2	R5506	B-2	R5641	C-3	R5811	C-4
C5622	B-3	R5507	B-2	R5642	C-10	R5812	C-4
C5623	B-2	R5508	B-1	R5643	C-9		
C5624	B-9	R5509	B-1	R5644	C-10		
C5625	B-9	R5510	B-3	R5645	C-10		
C5626	B-9	R5511	B-3	R5646	D-10		
C5627	C-3	R5512	B-1	R5647	D-2		
C5628	C-7	R5513	B-2	R5648	D-2		
C5629	C-6	R5514	B-2	R5649	D-2		
C5630	C-4	R5515	B-1	R5650	D-9		
C5631	C-4	R5516	B-1	R5651	D-9		
C5632	C-1	R5517	C-3	R5652	D-9		
C5633	C-1	R5518	C-3	R5653	D-9		
C5634	D-9	R5519	C-3	R5654	D-9		
C5635	D-10	R5520	C-3	R5655	C-9		
C5636	D-10	R5521	B-2	R5656	D-9		
C5637	D-6	R5522	B-2	R5657	D-10		
C5638	C-8	R5523	C-3	R5658	D-10		
C5639	C-3	R5524	B-1	R5659	D-10		
C5640	C-7	R5525	B-1	R5660	D-10		
C5641	C-6	R5526	C-3	R5661	D-10		
C5642	C-4	R5527	B-1	R5662	C-9		
C5643	C-4	R5528	B-1	R5663	D-10		
C5644	C-1	R5529	B-1	R5664	D-10		
C5645	C-1	R5530	B-1	R5665	D-10		
C5646	C-1	R5531	C-2	R5666	D-1		
C5647	C-1	R5532	C-3	R5667	D-1		
C5648	C-1	R5533	B-1	R5668	D-1		
C5649	C-1	R5534	B-1	R5669	D-1		
C5650	B-9	R5535	B-1	R5670	D-1		
C5651	B-9	R5536	D-8	R5671	D-9		
C5652	B-9	R5537	D-2	R5672	D-9		

PD-92 (RGB DECODER, LCD DRIVE, BACK LIGHT, LCD (2.5 INCH LCD MODEL)) PRINTED WIRING BOARD
- Ref No. PD-92 BOARD: 10,000 series -



- For schematic diagrams.
- Refer to page 4–79 for Printed Wiring Board.

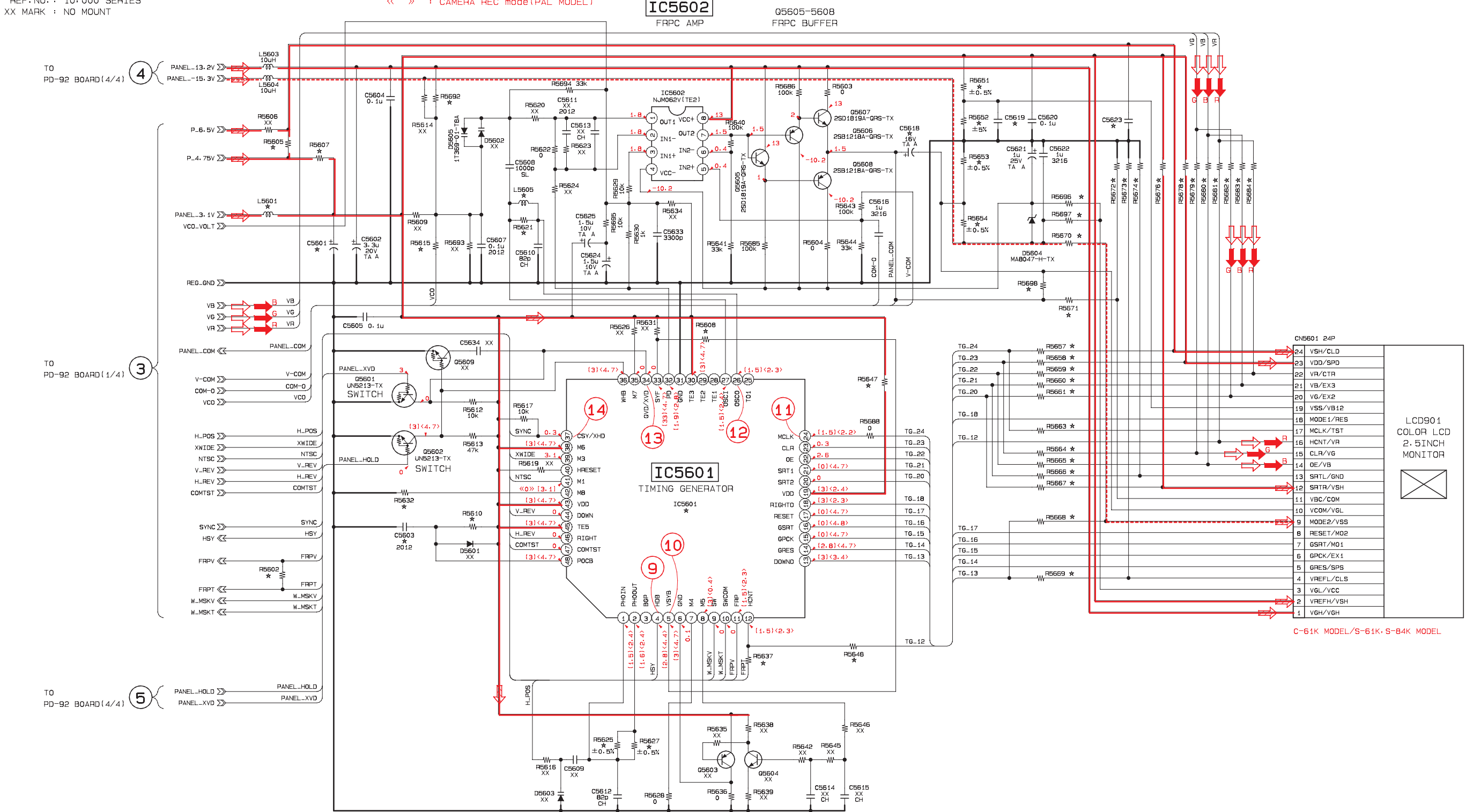
PD-92 BOARD (2/4)
CAMERA REC



PD-92 BOARD (2/4)
LCD DRIVE (TG BLOCK)

-REF. NO. : 10-000 SERIES-
XX MARK : NO MOUNT

NO MARK : CAMERA REC mode
() : CAMERA REC mode (2.5INCH LCD (C-61K) MODEL)
< > : CAMERA REC mode (2.5INCH LCD (S-61K, S-84K) MODEL)
[] : CAMERA REC mode (NTSC MODEL)
<< >> : CAMERA REC mode (PAL MODEL)



* MARKED MOUNT TABLE

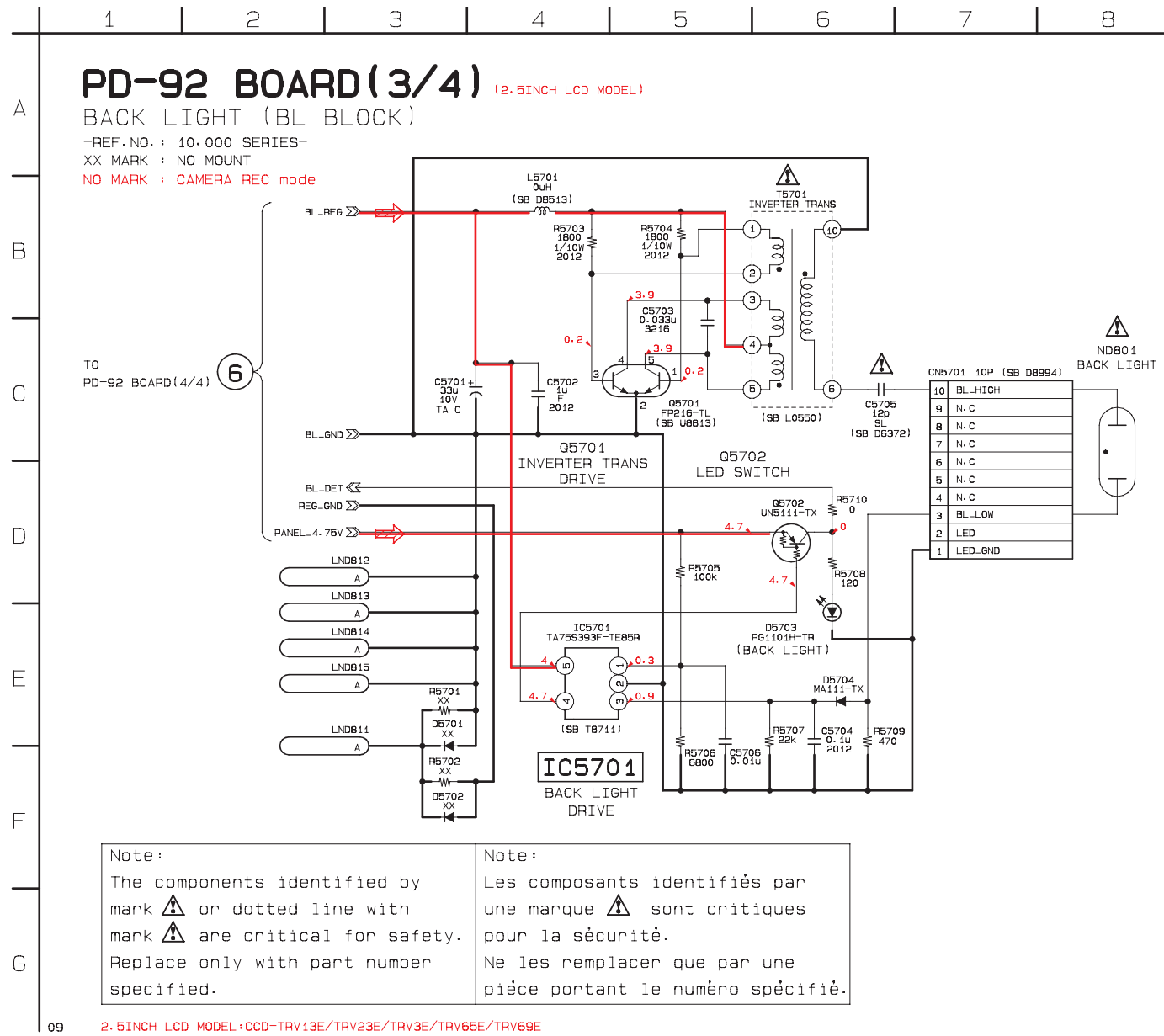
Ref. No.	Mode1	S-61K	C-61K	S-84K
C5601	XX	10u	XX	XX
C5603	0.1u	0.33u	XX	0.1u
C5618	6.8u	XX	6.8u	XX
C5619	0.01u	XX	0.01u	XX
C5623	XX	0.1u	XX	XX
IC5601	L796H184	CM7017L2-T4	L796H184	XX
L5601	XX	10uH	XX	XX
L5605	27uH	33uH	15uH	XX
R5602	XX	XX	XX	XX
R5605	XX	XX	XX	XX
R5607	0	XX	0	XX
R5608	0	XX	0	XX
R5610	100k	56k	100k	XX
R5615	220k	220k	330k	XX
R5621	1M	XX	1M	XX
R5625	100k	68k	100k	XX
R5627	180k	100k	180k	XX
R5632	0	XX	XX	XX
R5637	0	XX	0	XX
R5647	XX	XX	XX	XX
R5648	XX	0	XX	XX
R5651	33k	XX	33k	XX
R5652	22k	0	22k	XX
R5653	33k	XX	33k	XX
R5654	22k	XX	22k	XX
R5657	0	XX	0	XX
R5658	0	XX	0	XX
R5659	0	XX	0	XX
R5670	0	XX	0	XX
R5671	XX	XX	XX	XX
R5672	XX	220k	XX	XX
R5673	XX	0	XX	XX
R5674	0	XX	0	XX
R5675	0	XX	0	XX
R5676	0	XX	0	XX
R5677	XX	XX	XX	XX
R5678	47	XX	47	XX
R5679	47	XX	47	XX
R5680	47	XX	47	XX
R5681	47	XX	47	XX
R5682	XX	47	XX	XX
R5683	XX	47	XX	XX
R5684	XX	47	XX	XX
R5685	330k	330k	330k	XX
R5686	0	XX	0	XX
R5687	XX	0	XX	XX
R5688	XX	0	XX	XX

* SIGNAL PATH

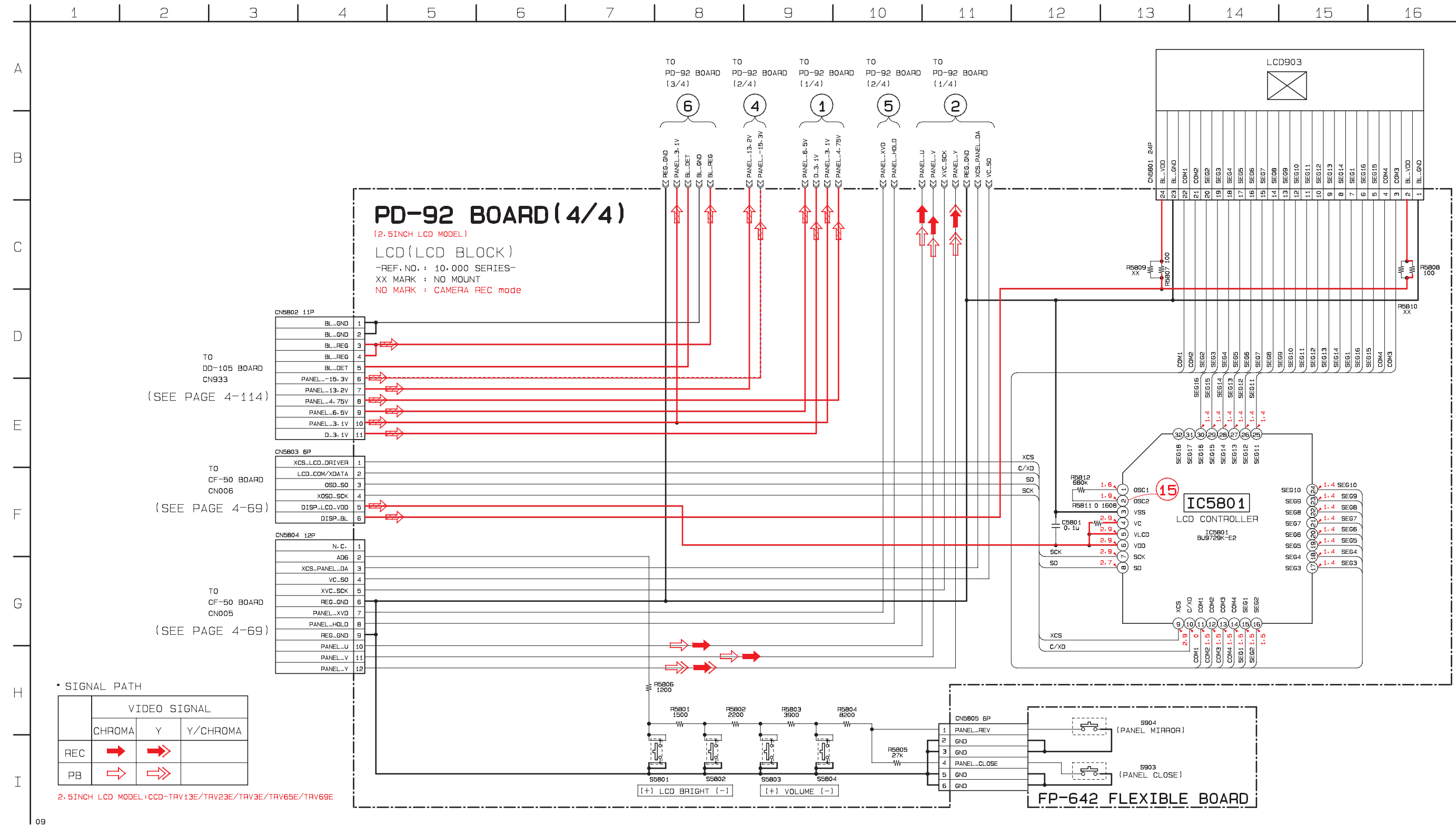
	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡		
PB	➡		

2.5INCH LCD (S-61K) MODEL : CCD-TRV23E
2.5INCH LCD (C-61K) MODEL : CCD-TRV13E/TRV3E
2.5INCH LCD (S-84K) MODEL : CCD-TRV65E/TRV69E

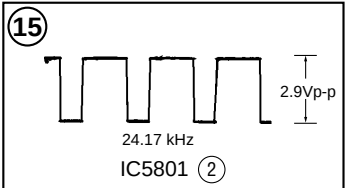
- For schematic diagrams.
- Refer to page 4-79 for Printed Wiring Board.



- For schematic diagrams.
- Refer to page 4-79 for Printed Wiring Board.



PD-92 BOARD (4/4)
CAMERA REC



BACK LIGHT, LCD
PD-92 (3/4, 4/4) (2.5 INCH LCD MODEL)

CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/TRV65E/
TRV69E/TRV75/TRV75PK/TRV715

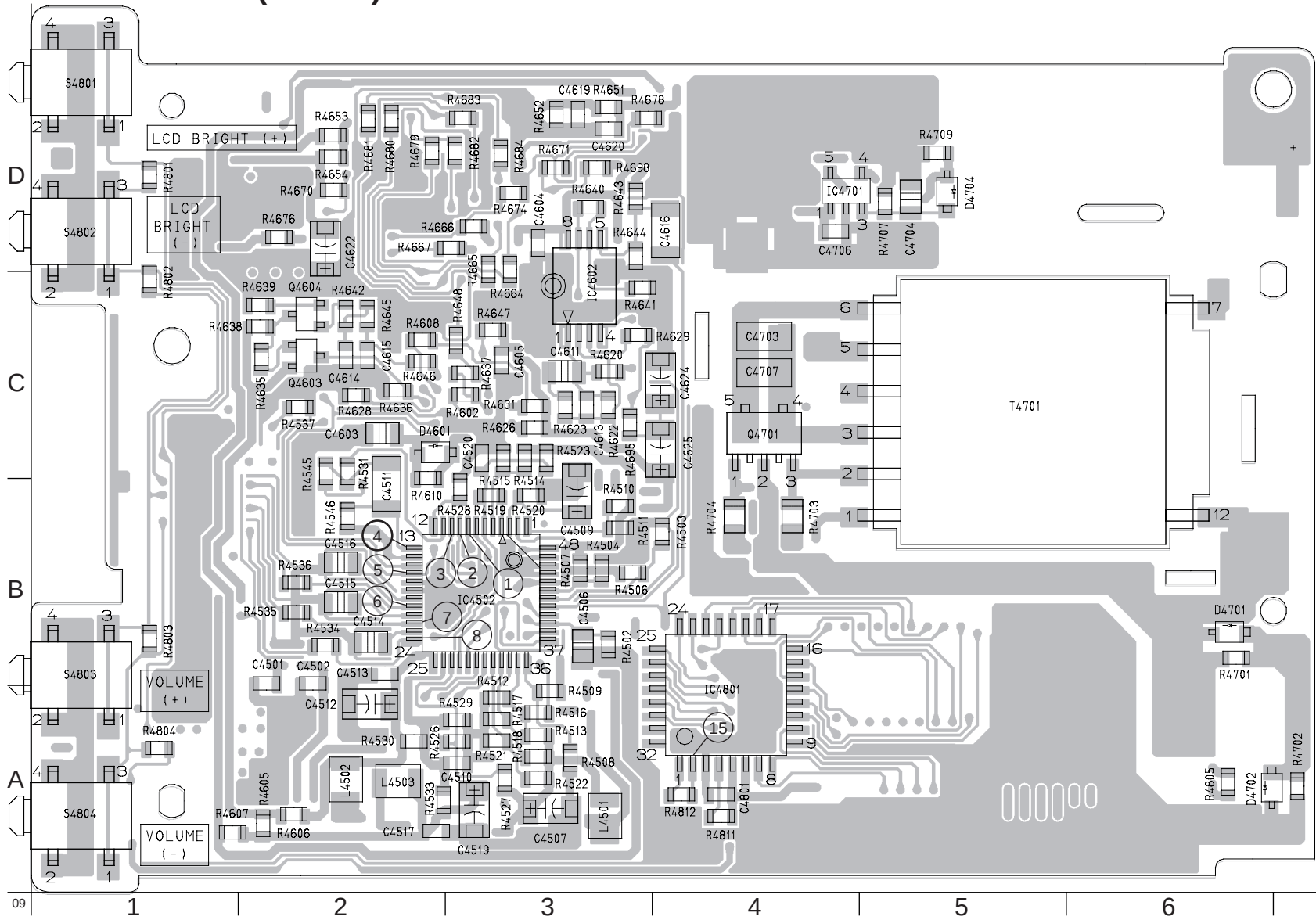
PD-93 (RGB DECODER, LCD DRIVE, BACK LIGHT, LCD (3 INCH/3.5 INCH LCD MODEL) PRINTED WIRING BOARD

– Ref No. PD-93 BOARD: 10,000 series –

PD-93 BOARD

C4501	B-2	D4702	A-6	R4546	B-2	R4680	D-2
C4502	B-2	D4704	D-5	R4602	C-3	R4681	D-2
C4503	B-11			R4603	D-10	R4682	D-3
C4504	B-11	IC4501	A-12	R4604	D-11	R4683	D-3
C4505	B-11	IC4502	B-3	R4605	A-2	R4683	D-11
C4506	B-3	IC4601	C-11	R4606	A-2	R4684	D-3
C4507	A-3	IC4602	C-3	R4607	A-1	R4685	C-10
C4508	B-11	IC4701	D-4	R4608	C-2	R4686	D-10
C4509	B-3	IC4801	A-4	R4609	B-11	R4692	B-11
C4510	A-3			R4610	C-2	R4693	C-10
C4511	B-2	L4501	A-3	R4612	B-11	R4694	C-10
C4512	A-2	L4502	A-2	R4613	B-11	R4695	C-3
C4513	B-2	L4601	A-10	R4614	C-10	R4696	D-12
C4514	B-2	L4603	B-11	R4615	B-11	R4697	D-12
C4515	B-2	L4604	A-11	R4616	B-12	R4698	D-3
C4516	B-2	L4605	C-11	R4617	B-11	R4701	B-6
C4517	A-2	L4701	C-9	R4619	B-11	R4702	A-7
C4518	A-11			R4620	C-3	R4703	B-4
C4519	A-3	Q4501	A-11	R4621	C-10	R4703	D-9
C4520	C-3	Q4601	B-11	R4622	C-3	R4704	B-4
C4601	A-10	Q4602	B-11	R4623	C-3	R4705	D-9
C4602	B-11	Q4603	C-2	R4624	C-11	R4706	D-9
C4603	C-2	Q4604	C-2	R4625	B-11	R4707	D-5
C4604	D-3	Q4605	D-10	R4626	C-3	R4708	D-5
C4605	C-3	Q4606	D-10	R4627	B-11	R4710	D-9
C4607	C-10	Q4607	D-10	R4628	C-2	R4801	D-1
C4608	C-10	Q4608	D-10	R4629	C-3	R4802	C-1
C4609	B-12	Q4609	B-11	R4630	B-1	R4803	B-1
C4610	C-11	Q4701	C-4	R4631	C-3	R4804	A-1
C4611	C-3	Q4702	D-9	R4632	B-11	R4806	A-6
C4612	B-12			R4634	C-11	R4806	A-12
C4613	C-3			R4635	C-2	R4807	B-8
C4614	C-2	R4501	B-11	R4636	C-2	R4808	B-11
C4615	C-2	R4503	B-4	R4637	C-3	R4809	B-8
C4616	D-4	R4504	B-3	R4638	C-2	R4810	B-11
C46181	D-11	R4505	B-11	R4639	C-2	R4811	A-4
C4619	D-3	R4506	B-3	R4640	D-3	R4812	A-4
C4620	D-3	R4507	B-3	R4641	C-3		
C4621	D-12	R4508	A-3	R4642	C-2	S4801	D-1
C4622	D-2	R4509	A-3	R4643	D-3	S4802	D-1
C4623	D-10	R4510	B-3	R4644	D-3	S4803	B-1
C4624	C-4	R4511	B-3	R4645	C-2	S4804	A-1
C4625	C-4	R4512	A-3	R4646	C-2		
C4633	C-10	R4513	A-3	R4647	C-3		
C4634	C-11	R4514	C-3	R4648	C-3		
C4701	C-9	R4516	A-3	R4651	D-3		
C4702	B-10	R4516	C-3	R4652	D-3		
C4703	C-4	R4517	A-3	R4653	D-2		
C4704	D-5	R4518	A-3	R4654	D-2		
C4705	D-8	R4519	B-3	R4657	D-11		
C4706	D-42	R4520	B-3	R4658	D-11		
C4707	C-4	R4521	A-3	R4659	D-11		
C4801	A-4	R4522	A-3	R4660	D-11		
		R4523	C-3	R4661	D-11		
CN4501	C-12	R4526	A-3	R4663	D-11		
CN4601	D-12	R4527	A-3	R4664	D-3		
CN4701	D-9	R4528	B-3	R4665	D-3		
CN4801	B-9	R4529	A-3	R4666	D-3		
CN4802	A-8	R4530	A-2	R4667	D-3		
CN4803	A-9	R4531	C-2	R4668	C-12		
CN4804	A-10	R4532	A-12	R4669	D-12		
CN4805	A-7	R4533	A-2	R4670	D-2		
CN4806	B-12	R4534	B-2	R4671	D-3		
		R4535	B-2	R4672	D-10		
D4601	C-2	R4536	B-2	R4673	D-12		
D4602	C-10	R4537	C-2	R4674	D-3		
D4603	B-12	R4541	A-11	R4676	D-2		
D4605	C-10	R4542	A-11	R4677	D-11		
D4614	D-12	R4544	A-11	R4678	D-2		
D4701	B-6	R4545	C-2	R4678	D-3		

PD-93 BOARD (SIDE B)



• For Printed Wiring Boards.

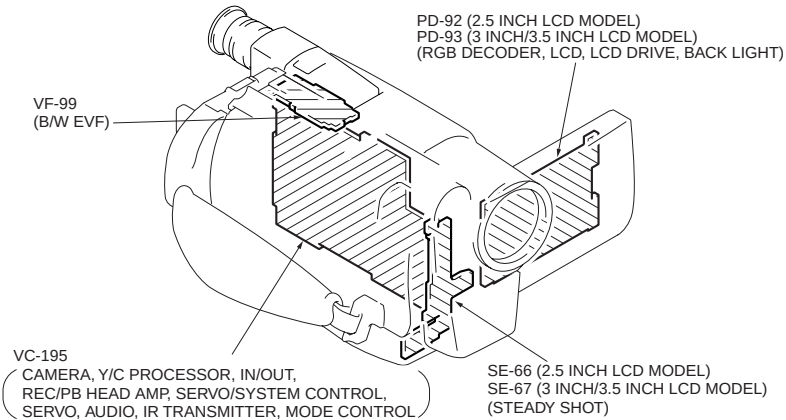
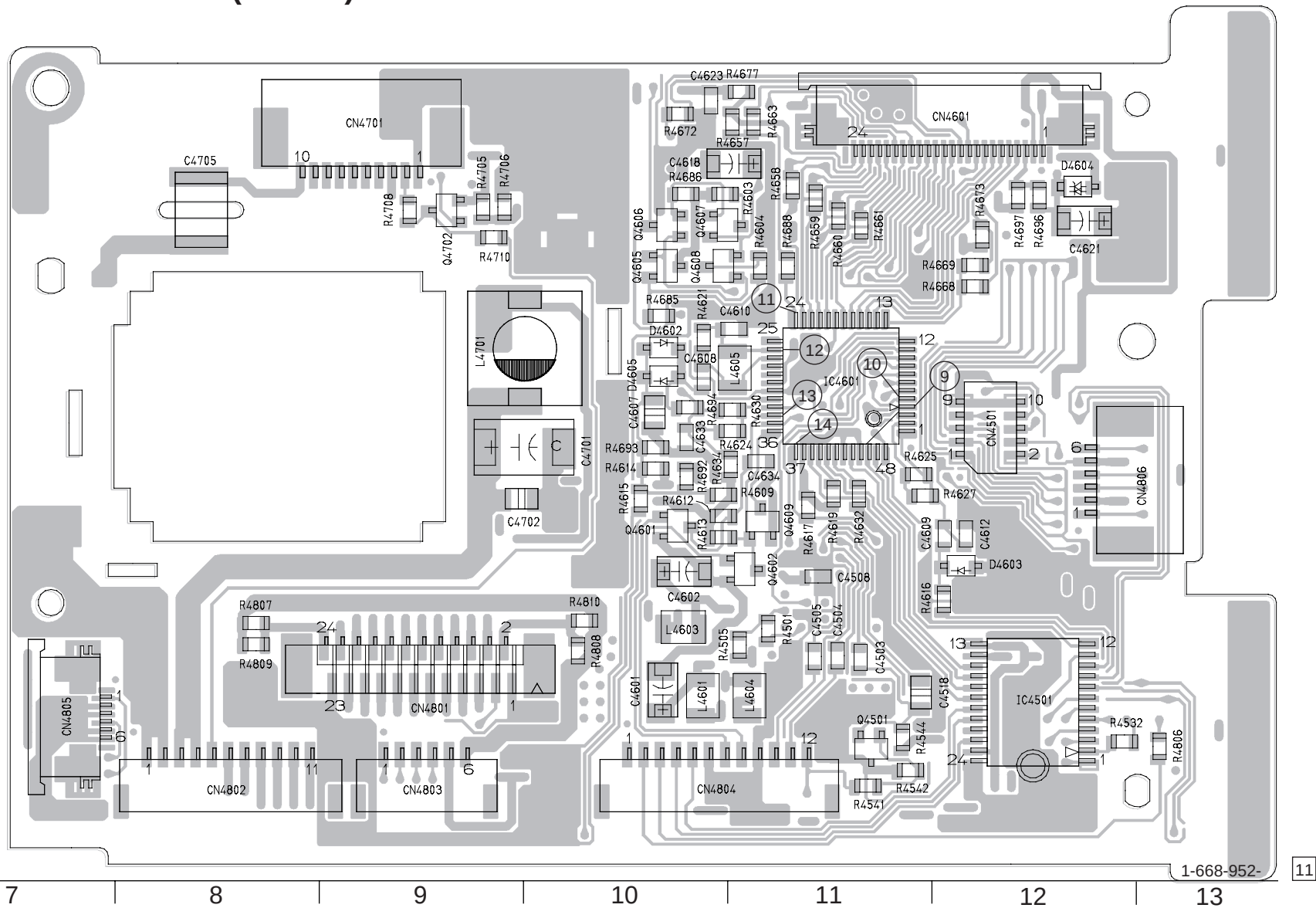
- This board is four-layer print board. However, the patterns of layers 2 to 3 have not been included in the diagram.

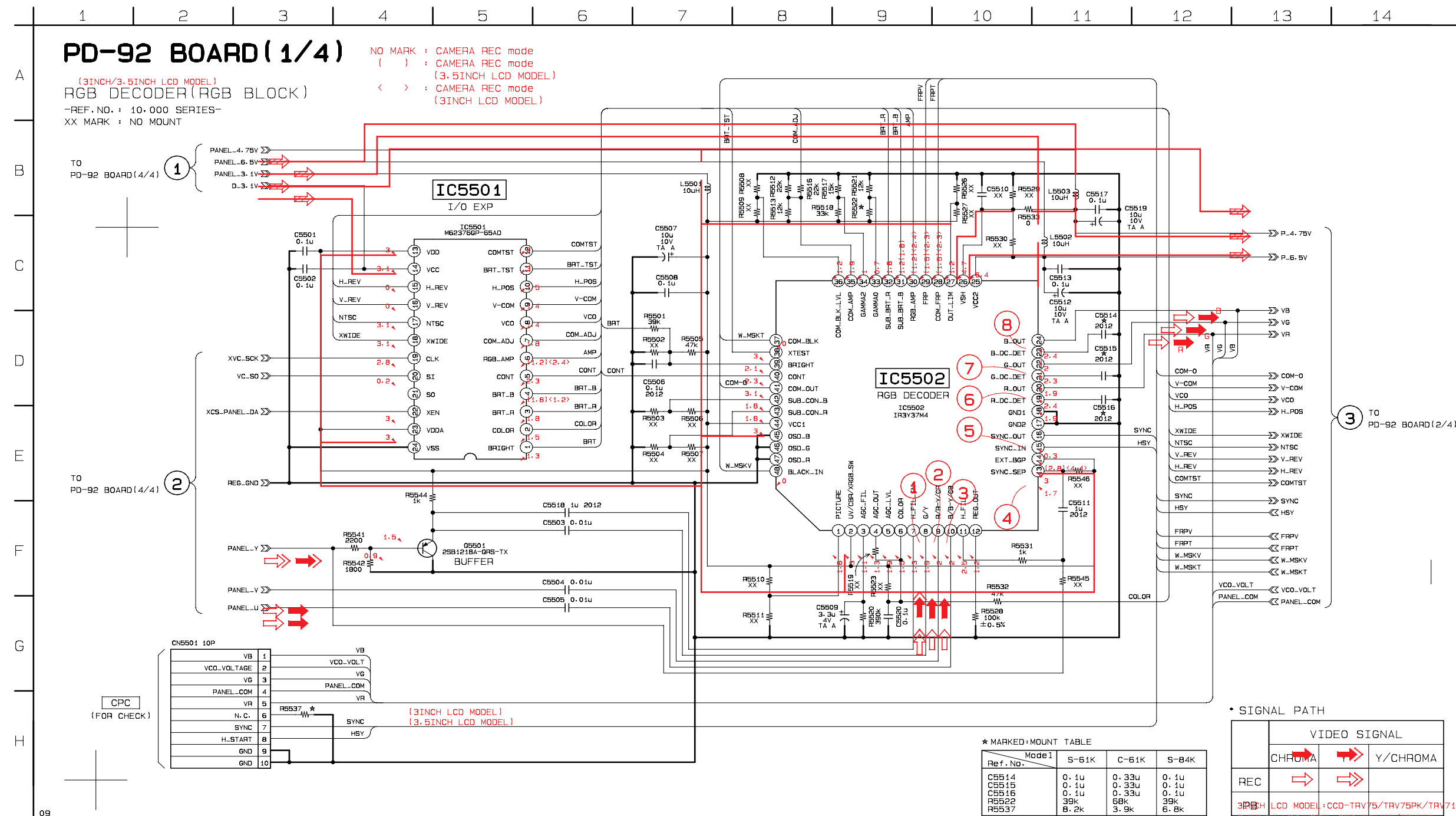
There are few cases that the part isn't mounted in this model is printed on this diagram.

• Chip transistor

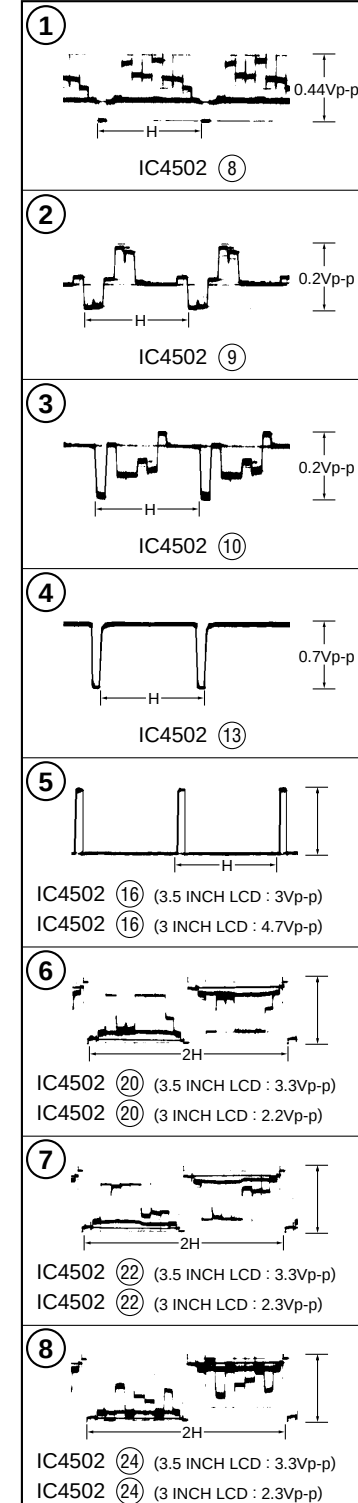


PD-93 BOARD (SIDE A)





PD-93 BOARD (1/4)
CAMERA REC



Ref. No.	Mode 1	S-61K	C-61K	S-84K
C5514	0. 1u	0. 33u	0. 1u	
C5515	0. 1u	0. 33u	0. 1u	
C5516	0. 1u	0. 33u	0. 1u	
R5522	39k	68k	39k	
R5537	B. 2k	3. 9k	6. 8k	

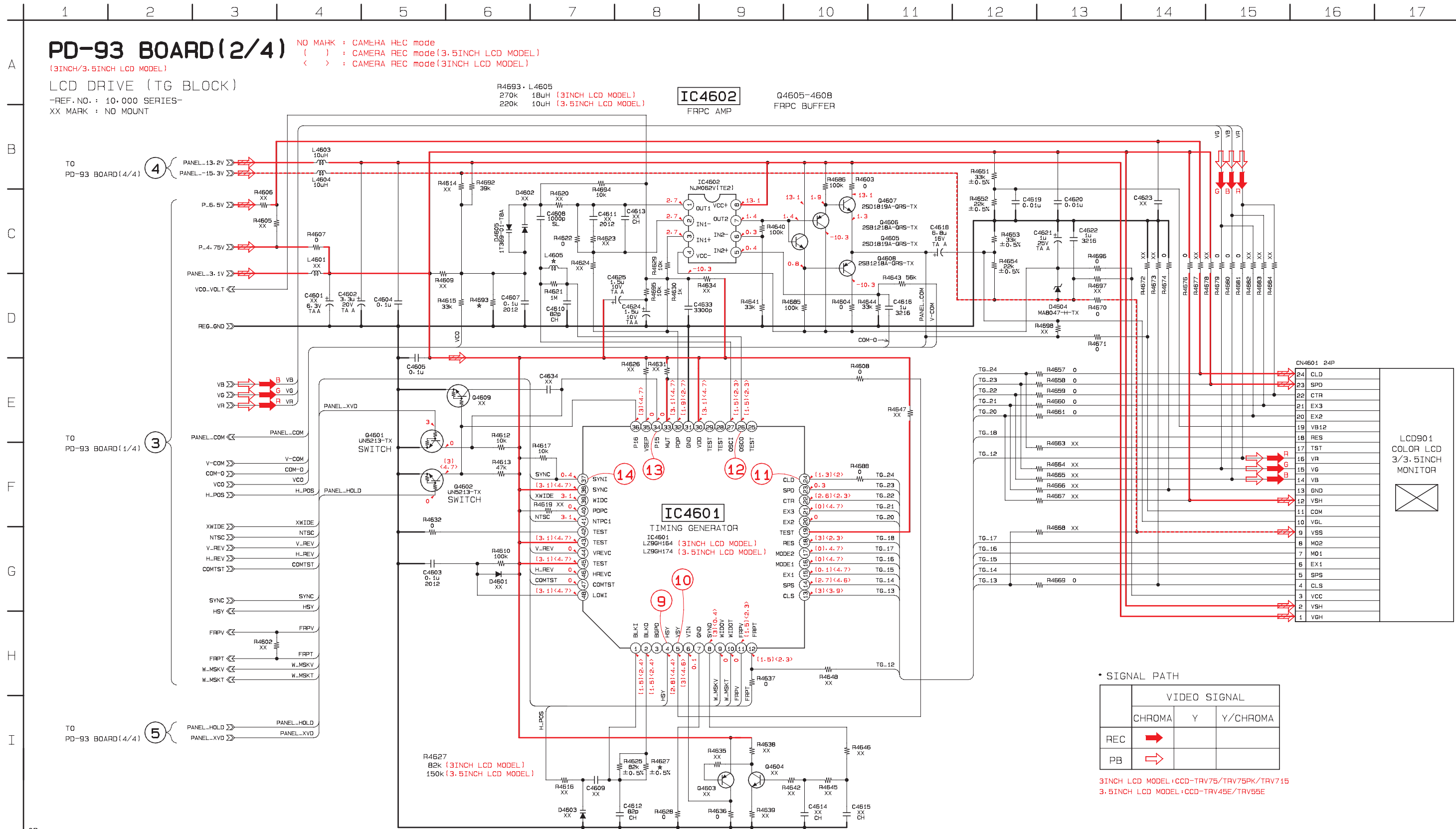
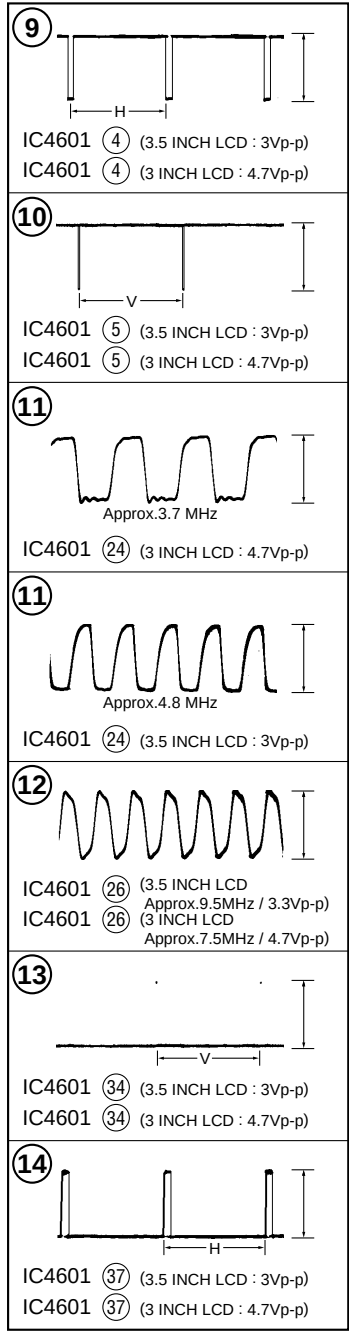
• SIGNAL PATH

	VIDEO SIGNAL	
	CHROMA	Y/CHROMA
REC		

3-5INCH LCD MODEL: CCD-TRV75/TRV75PK/TRV714

3-5INCH LCD MODEL: CCD-TRV45E/TRV55E

- **For schematic diagrams.**
- Refer to page 4–90 for Printed Wiring Board.

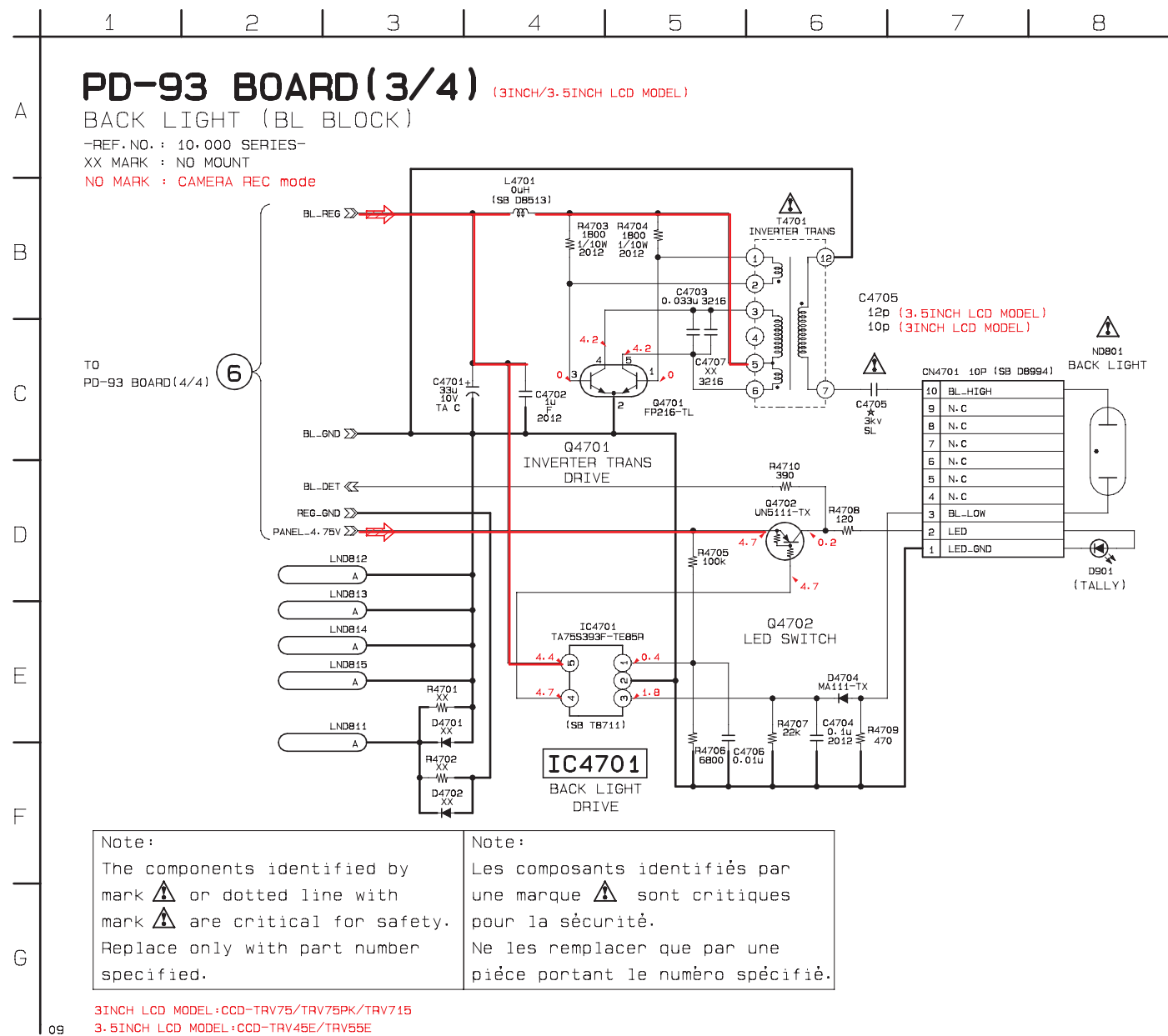


- SIGNAL PATH

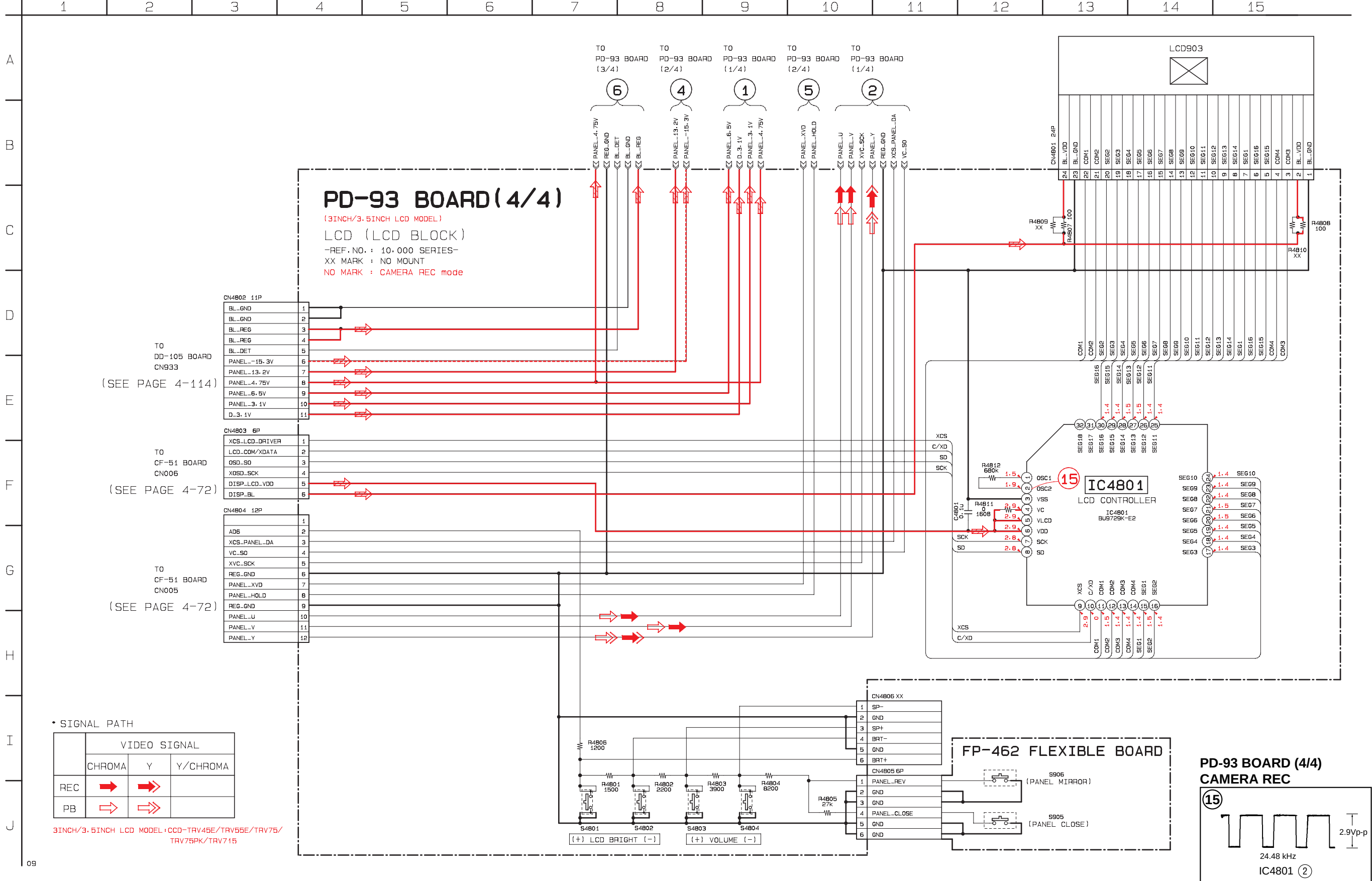
	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC			
PB			

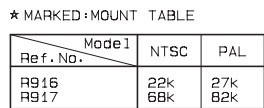
3INCH LCD MODEL: CCD-TRV75/TRV75PK/TRV715
3.5INCH LCD MODEL: CCD-TRV45E/TRV55E

- For schematic diagrams.
- Refer to page 4–90 for Printed Wiring Board.

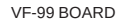


- For schematic diagrams.
- Refer to page 4–90 for Printed Wiring Board.





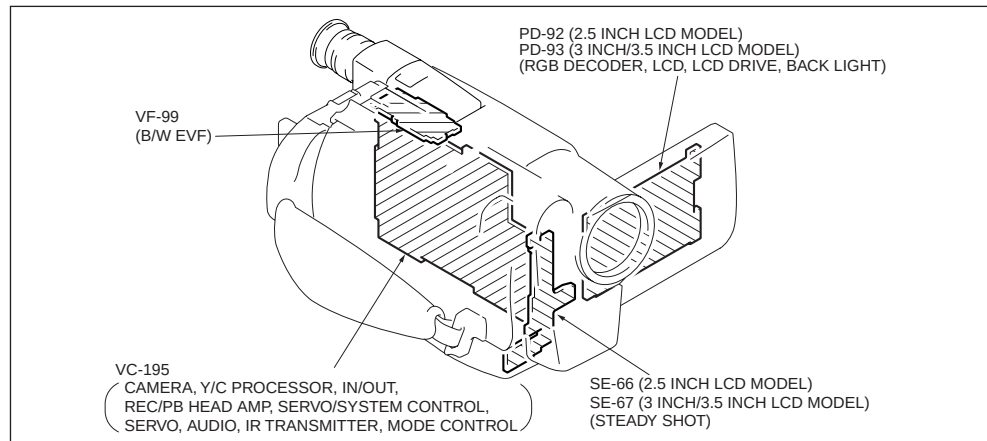
– Ref No. VF-99 BOARD: 10,000 series –



- For Printed Wiring Boards.

- There are few cases that the part isn't mounted in this model is printed on this diagram.

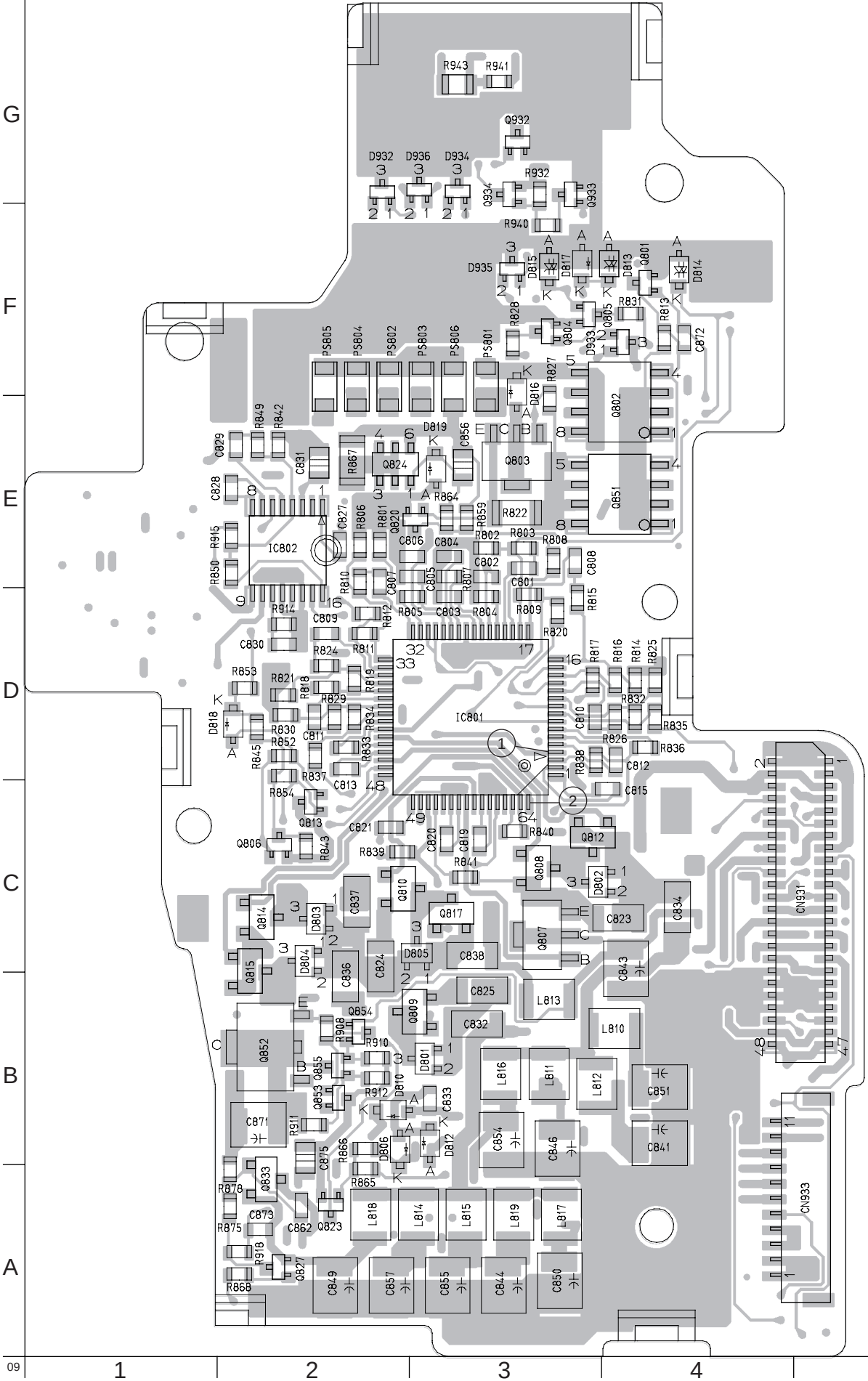
- Chip transistor



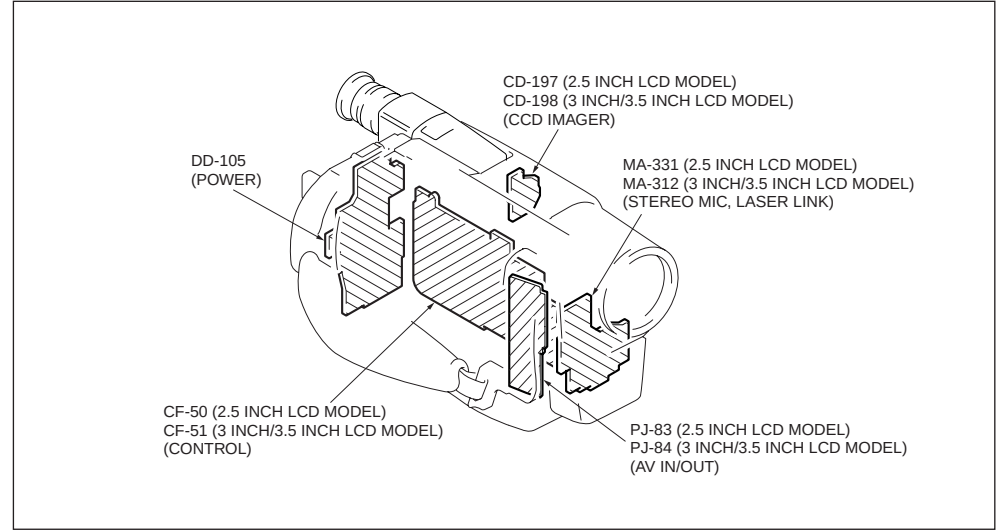
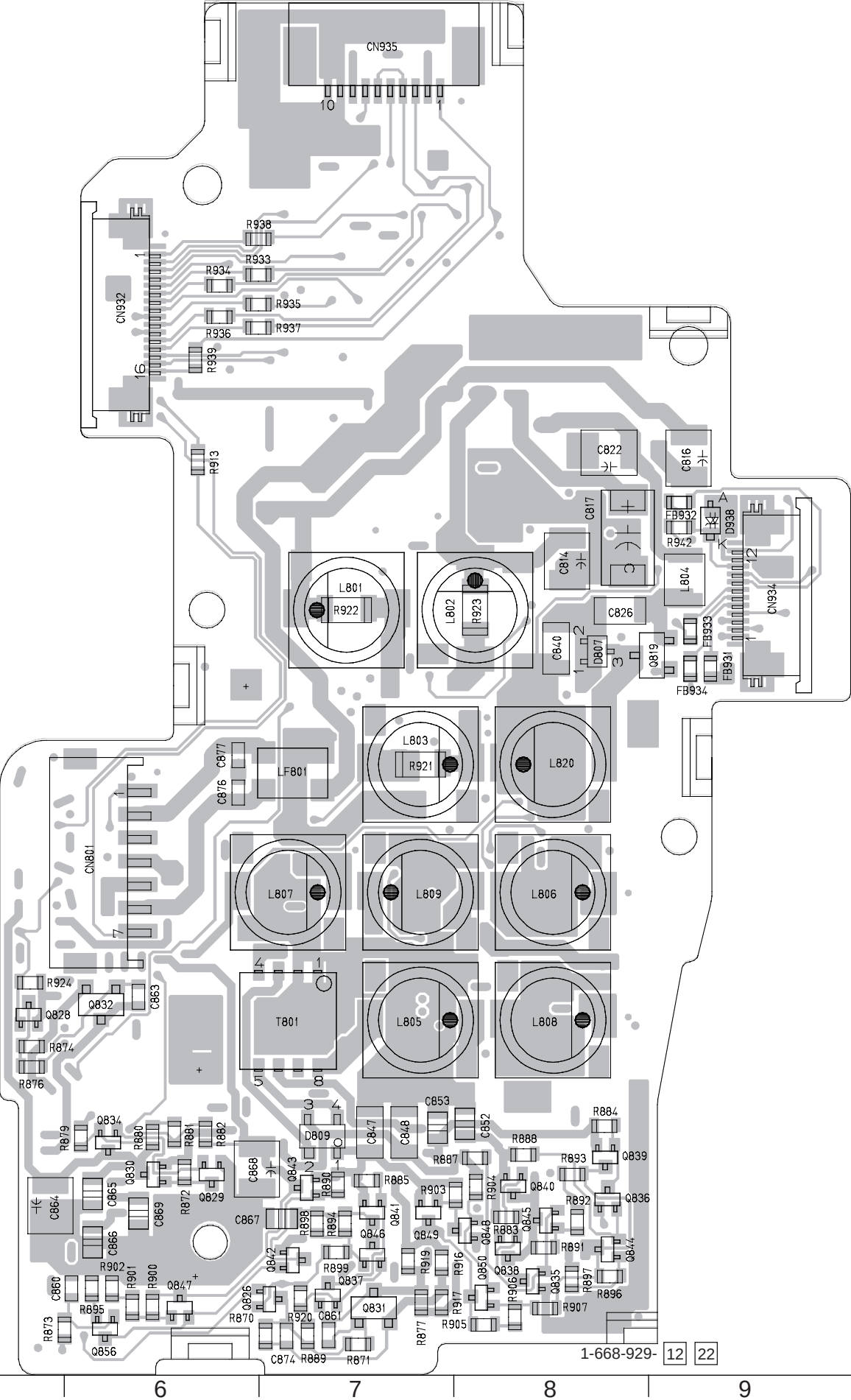
CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/TRV65E/
TRV69E/TRV75/TRV75PK/TRV715

DD-105 (POWER) PRINTED WIRING BOARD
— Ref No. DD-105 BOARD: 2,000 series —

DD-105 BOARD (SIDE B)



DD-105 BOARD (SIDE A)

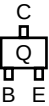


• For Printed Wiring Boards.

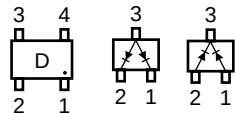
- This board is four-layer print board. However, the patterns of layers 2 to 3 have not been included in the diagram.

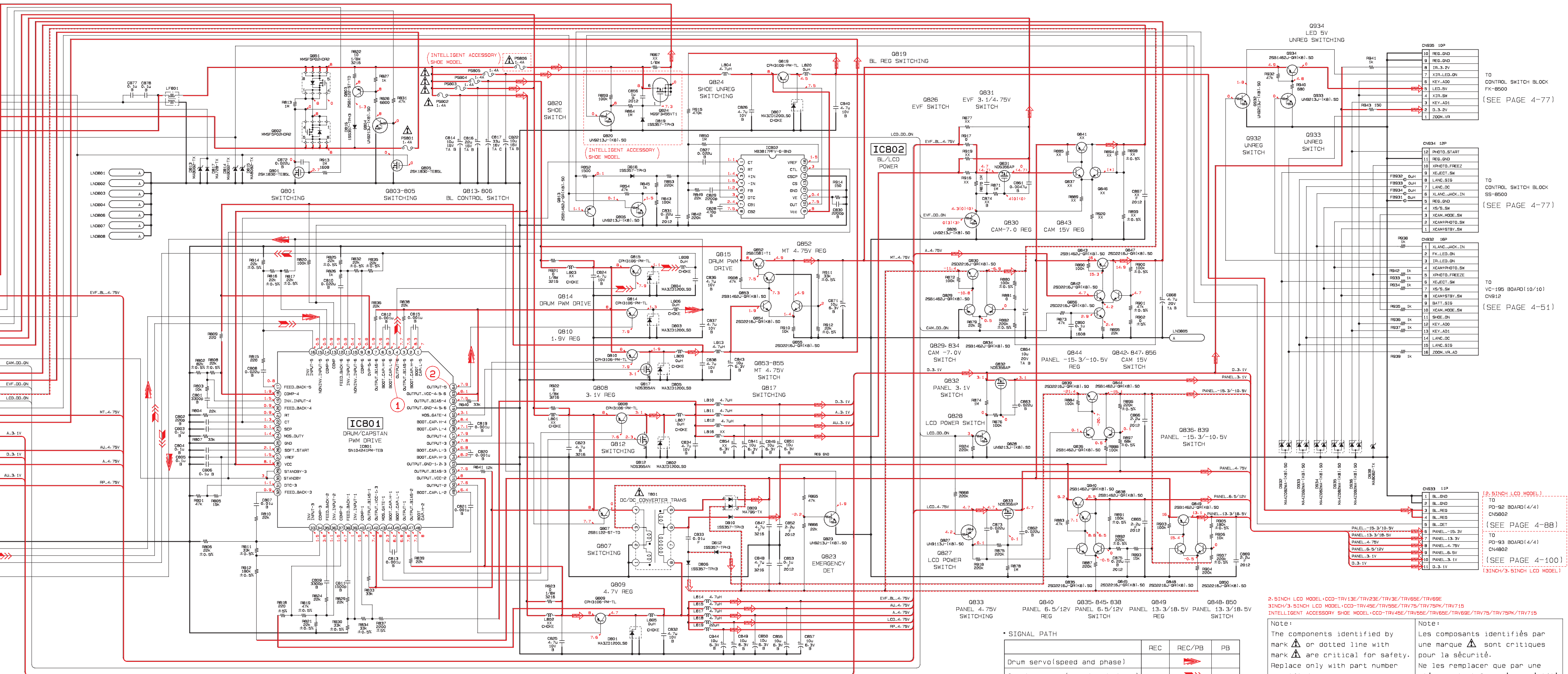
There are few cases that the part isn't mounted in this model is printed on this diagram.

• Chip transistor



Chip diode





* SIGNAL PATH			
	REC	REC/PB	PB
Drum servo(speed and phase)			
Capstan servo(speed and phase)			

Note:

Les composants identifiés par une marque  sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifié.

CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/TRV65E/ TRV69E/TRV75/TRV75PK/TRV715

SECTION 5 ADJUSTMENTS

Refer to page 3 as Table for distinction functions of models and classification

5-1. CAMERA SECTION ADJUSTMENTS

1-1. PREPARATIONS BEFORE ADJUSTMENT (CAMERA SECTION)

1-1-1. List of Service Tools

- Oscilloscope
- Color monitor
- Vectorscope
- Adjusting driver
- Regulated power supply
- Digital voltmeter

Ref. No.	Name	Parts Code	Usage
J-1	Filter for color temperature correction (C14)	J-6080-058-A	Auto white balance adjustment/check White balance adjustment/check
J-2	ND filter 1.0	J-6080-808-A	White balance check
	ND filter 0.3	J-6080-818-A	White balance check
J-3	Pattern box PTB-450	J-6082-200-A	
J-4	Color chart for pattern box	J-6020-250-A	
J-5	Adjusting remote commander (RM-95-remodeled partly) (Note 1)	J-6082-053-B	
J-6	Siemens star	J-6080-875-A	For checking the flange back
J-7	Multi CPC jig	J-6082-311-A	For adjusting LCD block
J-8	CPC-7 jig	J-6082-382-A	For adjusting the video section
J-9	Power code (Note 2)	J-6082-223-A	For connecting the battery terminal and DC power supply
J-10	AFM DEV jig	J-6082-312-A	For adjusting the deviation
J-11	Clear chart	J-6080-621-A	
J-12	Extension cable (16P, 0.5 mm)	J-6082-357-A	For extension between the CD-197/198 board (CN401) and VC-195 board (CN501)
J-13	IR receiver jig	J-6082-383-A	For adjusting the IR transmitter
J-14	Extension cable (48P, 0.8 mm)	J-6082-188-A	For extension between the DD-105 board (CN931) and VC-195 board (CN914)

Note 1: If the micro processor IC in the adjusting remote commander is not the new micro processor (UPD7503G-C56-12), the pages cannot be switched. In this case, replace with the new micro processor (8-759-148-35).

Note 2: Connect the adjusting remote commander to the LANC jack, and set the HOLD switch to the "ADJ" side, or press the battery switch of the battery terminal using adhesive tape, etc.

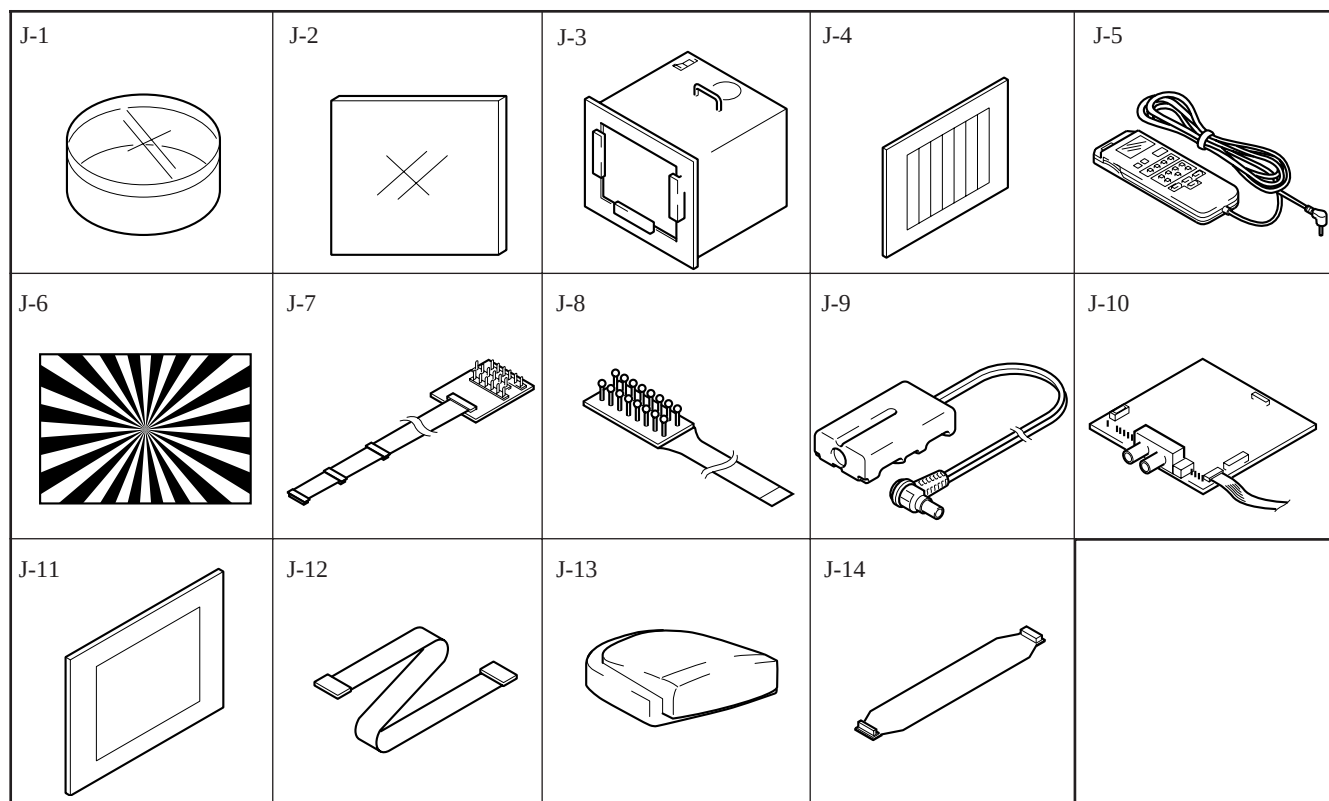


Fig. 5-1-1.

1-1-2. Preparations

Note 1: For details of how remove the cabinet and boards, refer to “2. DISASSEMBLY”.

Note 2: When performing only the adjustments, the lens block and boards need not be disassembled.

- 1) Connect the equipment for adjustments according to Fig. 5-1-3, 4.
- 2) By setting the “Forced Camera Power ON mode”, the camera power can be turned ON even if the front panel block (MA-312/331 board, power switch, microphone unit) has been removed. When removing the front panel block disconnect the following connector.
 1. VC-195 board CN903 (23P 0.5mm)
- 3) The intelligent accessory shoe (Intelligent accessory shoe model) or video light (Video light model) need not be assembled. If removing it, disconnect the following connector.
 1. VC-195 board CN909 (10P, 0.5mm)

Note 3: As removing the cabinet (R) (removing the VC-195 board CN911) means removing the lithium 3V power supply (CF-50/51 board), data such as date, time, user-set menus will be lost. After completing adjustments, reset these data. If the cabinet (R) has been removed, the self-diagnosis data, data on history of use (total drum rotation time etc.) will be lost. Before removing, note down the self-diagnosis data and data on the history use. (Refer to the “Service Mode” of “VIDEO SECTION ADJUSTMENT” for the data on the history use.)

Note 4: Setting the “Forced Camera Power ON” Mode

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 10, set data: 01, and press the PAUSE button of the adjusting remote commander.
The above procedure will enable the camera power to be turned on with the front panel block removed. After completing adjustments, be sure to exit the “Forced Camera Power ON Mode”.

Note 5: Exiting the “Forced Camera Power ON” Mode

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: 0, address: 01, and set data: 00.

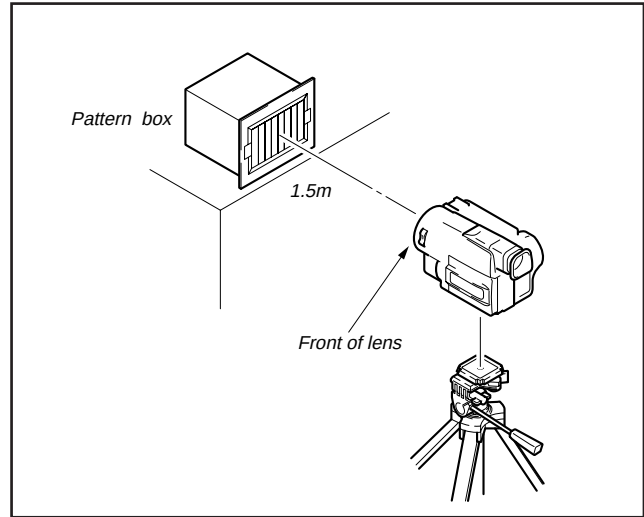


Fig. 5-1-2.

2.5 INCH LCD MODEL

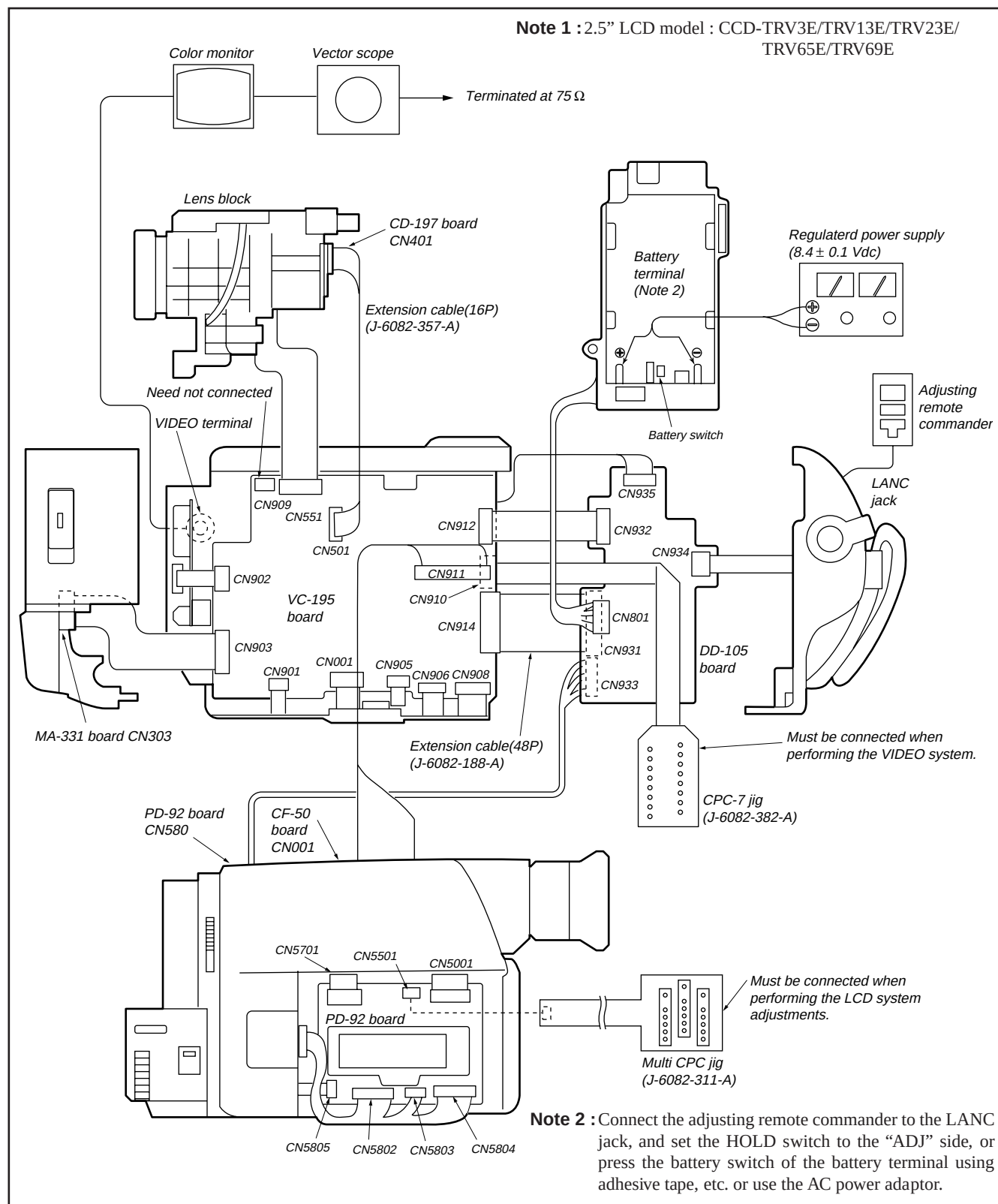


Fig. 5-1-3.

3/3.5 INCH LCD MODEL

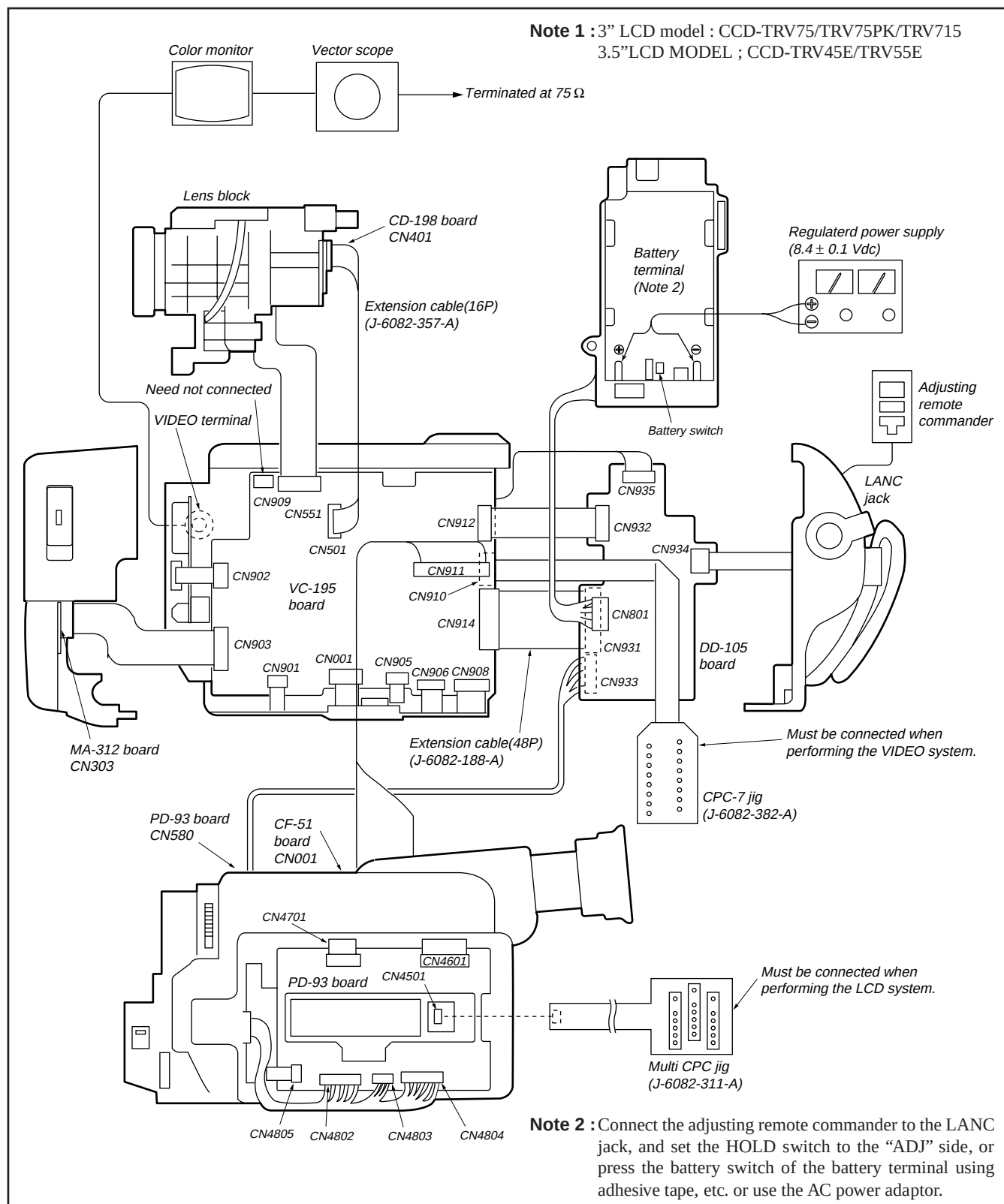


Fig. 5-1-4.

1-1-3.Precaution

1. Setting the Switch

Unless otherwise specified, set the switches as follows and perform adjustments without loading cassette.

- | | | | |
|--|-----------|---|--------|
| 1. POWER switch (MA-312/331 board) | CAMERA | 7. FOCUS switch (MF-8500/MR-8500) | MANUAL |
| 2. NIGHT SHOT switch (Lens Block) | OFF | (Manual Focus model) | |
| 3. DEMO MODE (Menu display) | OFF | 8. PROGRAM AE (CF-50/51 board) | Auto |
| 4. DIGITAL ZOOM (Menu display) | OFF | 9. BACK LIGHT (CF-50/51 board) | OFF |
| 5. STEADY SHOT (Menu display) | OFF | 10. PICTURE EFFECT (CF-50/51 board) | OFF |
| 6. DISPLAY (Menu display) | V-OUT/LCD | 11. 16 : 9 WIDE (Menu display) | OFF |

2. Adjusting Procedure

Adjust in the given order.

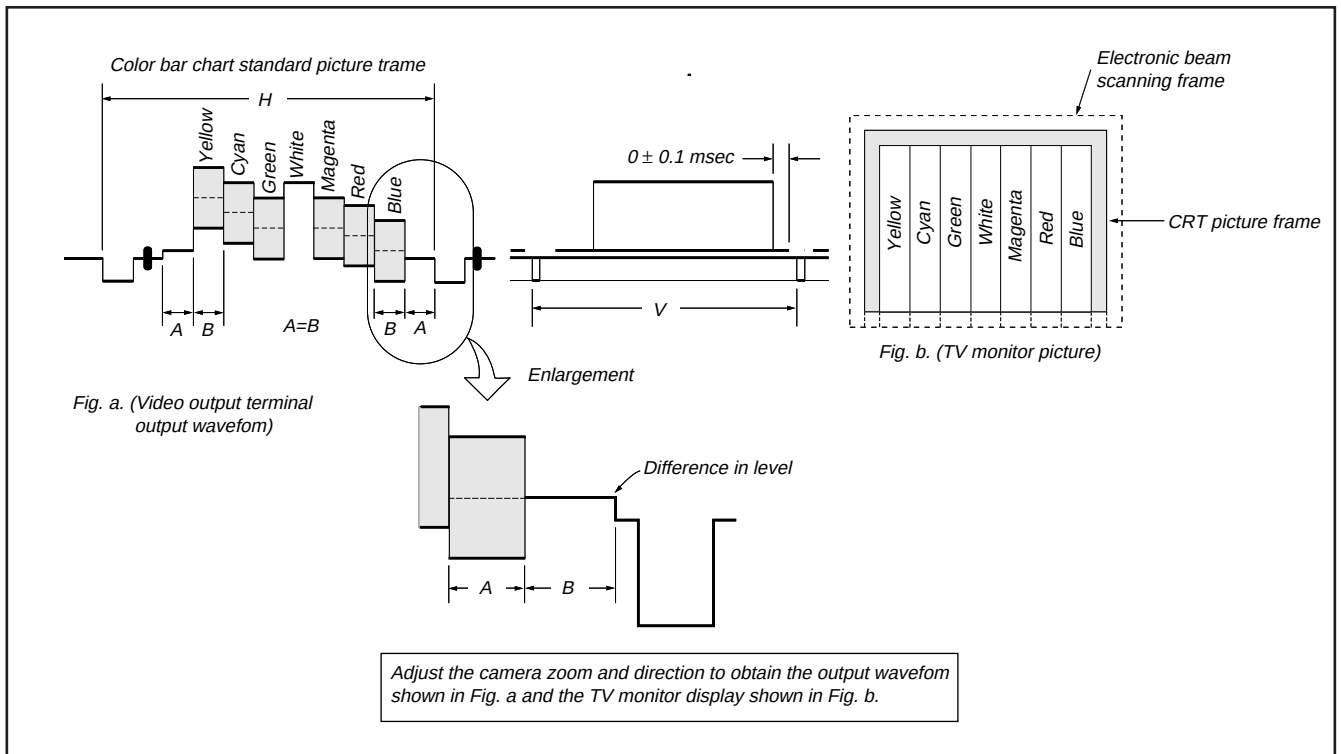


Fig. 5-1-5.

3. Subject

- 1) Color bar chart (Standard picture frame)
Adjust the picture frame as shown in Fig. 5-1-5. if adjustments are performed using the color bar chart.
(Standard picture frame)
- 2) White pattern (Standard picture frame)
Remove the color bar chart from the pattern box, and insert a clear chart in its place. (Do not perform zoom operations during this time.)
- 3) Chart for flange back adjustment
Combine a white A0 size (1189 mm x 841 mm) paper to a black one, and make the chart shown in Fig. 5-1-6.

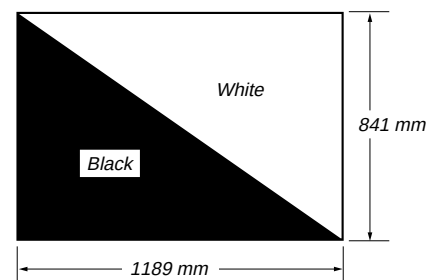


Fig. 5-1-6.

Note : Use the non-reflecting and non-glazing vellum paper whose size is more than A0, and make the boundary between white and black to be smoothly flat.

1-1-4. Adjusting Remote Commander

The adjusting remote commander is used for changing the calculation coefficient in signal processing, EVR data, etc. The adjusting remote commander performs bi-directional communication with the unit using the remote commander signal line (LANC). The resultant data of this bi-directional communication is written in the non-volatile memory.

1. Using the adjusting remote commander

- 1) Connect the adjusting remote commander to the LANC terminal.
- 2) Adjust the HOLD switch of the adjusting remote commander to “HOLD” (SERVICE position).

If it has been properly connected, the LCD on the adjusting remote commander will display as shown in Fig. 5-1-7.

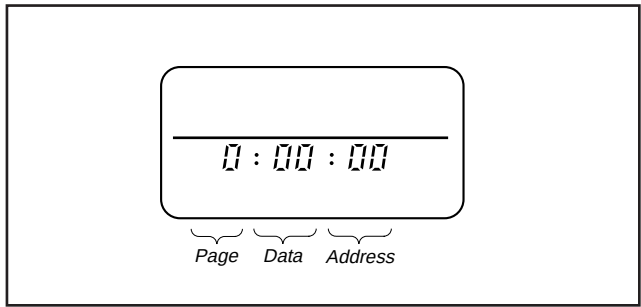


Fig. 5-1-7.

- 3) Operate the adjusting remote commander as follows.
 - Changing the page
The page increases when the EDIT SEARCH+ button is pressed, and decreases when the EDIT SEARCH- button is pressed. There are altogether 16 pages, from 0 to F.

Hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
LCD Display	0	1	2	3	4	5	6	7	8	9	A	b	c	d	E	F
Decimal notation conversion value	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Table 5-1-1.

- Changing the address
The address increases when the FF (▶▶) button is pressed, and decreases when the REW (◀◀) button is pressed. There are altogether 256 addresses, from 00 to FF.
 - Changing the data (Data setting)
The data increases when the PLAY (▶) button is pressed, and decreases when the STOP (■) button is pressed. There are altogether 256 data, from 00 to FF.
 - Writing the adjustment data
The PAUSE button must be pressed to write the adjustment data (D, E, F page) in the nonvolatile memory. (The new adjustment data will not be recorded in the nonvolatile memory if this step is not performed.)
- 4) Select page: 0, address: 01, and set the data to 01, and enables Page D and E, F to be adjusted.
 - 5) After completing all adjustments, set data: 00 to page: 0, address: 01 and turn off the main power supply (8.4V) once.

2. Precautions upon using the adjusting remote commander

Mishandling of the adjusting remote commander may erase the correct adjustment data at times. To prevent this, it is recommended that all adjustment data be noted down before beginning adjustments and new adjustment data after each adjustment.

1-1-5. Data Processing

The calculation of the DDS display and the adjusting remote commander display data (hexadecimal notation) are required for obtaining the adjustment data of some adjustment items. In this case, after converting the hexadecimal notation to decimal notation,

calculate and convert the result to hexadecimal notation, and use it as the adjustment data. Table 5-1-2. indicates the hexadecimal notation-the decimal notation calculation table.

Hexadecimal notation-Decimal notation																	② ↓
The lower digits of the hexadecimal notation The upper digits of the hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
											(H)	(b)	(c)	(d)	(E)	(F)	
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	
4	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	
A (H)	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	
①→ B (b)	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	
C (c)	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	
D (d)	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	
E (E)	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	
F (F)	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	

Note: () indicate the adjusting remote commander display.

(Example) In the case that the DDS display and the adjusting remote commander display are BD (bd).
As the upper digit of the hexadecimal notation is B (b), and the lower digit is D (d), the intersection “189” of the ① and ② in the above table is the decimal notation to be calculated.

Table 5-1-2.

1-2. INITIALIZATION OF D, E, F PAGE DATA

1. Initializing the D,E,F Page Data

Note 1: If “Initializing the D, E, F Page Data” is performed, all data of the D page, E page and F page will be initialized. (It is impossible to initialize a single page.)

Note 2: If the D,E,F page data has been initialized, “Modification of D, E, F Page Data” and all adjustments need to be performed again.

Note 3: < > : NTSC model (CCD-TRV75/TRV75PK/TRV715)
[] : PAL model (CCD-TRV3E/TRV13E/TRV23E/
TRV45E/TRV55E/TRV65E/TRV69E)

Adjusting page	D
Adjusting Address	00 to 6F
Adjusting page	F
Adjusting Address	00 to FF
Adjusting page	E
Adjusting Address	00 to FF

Initializing Method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 2, address: 00, and set data: 55 <NTSC> or data : 51 [PAL].
- 3) Select page: 2, address: 01, set data: 55<NTSC> or data : 51 [PAL], and press the PAUSE button of the adjusting remote commander.
- 4) Select page: 2, address: 02, and check that the data is 01.
- 5) Select page: 3, address: 00, and set data: 29.
- 6) Select page: 3, address: 01, set data: 29, and press the PAUSE button of the adjusting remote commander.
- 7) Select page: 0, address: 01, and set data: 00.
- 8) Perform “Modification of D,E,F Page Data”.

2. Modification of D, E, F Page Data

If the D, E, F page data has been initialized, change the data of the “Fixed data-2” address shown in the following tables by manual input.

Modifying Method:

- 1) Before changing the data, select page: 0, address: 01, and set data: 01.
- 2) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.

Note : If copy the data built in the different model, the camcorder may not operate.

- 3) When changing the data, press the PAUSE button of the adjusting remote commander each time when setting new data to write the data in the non-volatile memory.
- 4) Check that the data of adjustment addresses is the initial value. If not, change the data to the initial value.
- 5) After completing “Modification of D, E, F Page Data” select page: 0, address: 01, and set data: 00. Also perform all adjustments.

3. D Page Table

Note1 :

Fixed data-1 : Initialized data.

(Refer to “1. Initializing the D,E,F Page Data”.)

Fixed data-2 : Modified data.

(Refer to “2. Modification of D, E, F Page Data”).

Address	Initial Value		Remark
	NTSC	PAL	
00 to 0F			
10	00	00	Fixed data-1 (Initialized data)
11	00	00	
12	00	00	
13	Fixed data-2 (Modified data, copy the data built in the same model.)		
14			
15			
16			
17			
18			
19			
1A			
1B			
1C			
1D			
1E			
1F			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
2A	Fixed data-1 (Initialized data)		
2B			
2C			
2D			
2E	Fixed data-2		
2F			
30	88	88	Battery end adj.
31	8D	8D	
32	A8	A8	
33	BD	BD	
34	C8	C8	
35	Fixed data-2 (Modified data, copy the data built in the same model.)		
36			
37			
38			
39			
3A			
3B			
3C			
3D			
3E			
3F			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
4A			

Address	Initial Value		Remark
	NTSC	PAL	
4B	Fixed data-1 (Initialized data)		
4C			
4D			
4E			
4F	Fixed data-2 (Modified data, copy the data built in the same model.)		
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
5A			
5B			
5C			
5D			
5E			
5F			
60	Fixed data-1 (Initialized data)		
61			
62			
63			
64			
65			
66			
67			
68			
69			
6A			
6B			
6C			
6D			
6E			
6F			

4. F Page table

Note 1:

Fixed data-1 : Initialized data.

(Refer to “1. Initializing the D,E,F Page Data”.)

Fixed data-2 : Modified data.

(Refer to “2. Modification of D, E, F Page Data”).

Note 2: There are three models classified by CCD imager types as shown below, and the initial value of adjustment is different according to the model.

NTSC 760H model : CCD-TRV75/TRV75PK/TRV715

PAL 760H model : CCD-TRV45E/TRV55E/TRV65E/TRV69E

PAL 510H model : CCD-TRV3E/TRV13E/TRV23E

Note 3 : There are three models classified by VTR formats as shown below, and the initial value of adjustment is different according to the model.

NTSC Hi8 model : CCD-TRV75/TRV75PK/TRV715

PAL Hi8 model : CCD-TRV65E/TRV69E

PAL Standard8 model : CCD-TRV3E/TRV13E/TRV23E/
TRV45E/TRV55E

Address	Initial Value		Remark
	NTSC	PAL	
00 to 0F			
10	00	00	Emergency memory address
11	00	00	
12	00	00	
13	00	00	
14	00	00	
15	00	00	
16	00	00	
17	00	00	
18	00	00	
19	00	00	
1A	00	00	
1B	00	00	
1C	Fixed data-2		
1D			
1E			
1F			
20			
21	D2	<D2>, [D0]	G-CAM flip adj. <> : CCD-TRV3E/TRV13E/TRV23E [] : CCD-TRV45E/TRV55E/TRV65E/TRV69E
22	Fixed data-2		
23			
24	Fixed data-1		
25			(Color reproduction adj.)
26	Fixed data-2		
27			
28			
29	Fixed data-1		
2A			
2B	Fixed data-2		
2C			28MHz origin osc. adj.
2D	Fixed data-2		
2E			
2F	80	80	Hall adj.
30	80	80	
31	08	18/08	Max gain adj. Note 2 : 510H model/ 760H model
32	Fixed data-1		
33			
34	1B	1B	Color reproduction adj.
35	Fixed data-1		
36			Color reproduction adj.
37	Fixed data-1		
38			
39			

Address	Initial Value		Remark
	NTSC	PAL	
3A	89	89	Auto white balance adj.
3B	59	59	
3C	38	38	IRIS IN/OUT adj.
3D	41	41	
3E	25	25	Flange back adj.
3F	00	00	
40	19	19	
41	00	00	
42	35	35	
43	52	52	Angular velocity sensor sensitivity adj.
44	52	52	
45	7A	7A	1.5MHz deviation adj.
46	8D	8D	1.7MHz deviation adj.
47	7A	7A	BPF f0 adj.
48	Fixed data-1		
49			
4A	6B	6B	Y OUT level adj.
4B	40	40	AFC f0 adj.
4C	9A	9A	C OUT level adj.
4D	Fixed data-1		
4E			
4F	7B	7B	Filter f0 adj.
50	60	60	RP filter f0 adj.
51	Fixed data-1		
52			
53			
54			
55			
56			
57			
58	40	40	REC Y current adj. (Addresses 57 to 5A are fixed) (data addresses. Note 3 : Hi8 model/ Standard8 model
59	40	40	
5A	5F	40	
5B	5F	40	
5C	A0	A1/80	
5D	80	95/80	
5E	90	A1/80	
5F	80	95/80	
60	50	50	
61	50	50	
62	43	50	REC L level adj. (Addresses 63 to 64 are fixed) (data addresses. Note 3 : Hi8 model/ Standard8 model
63	43	50	
64	43	50	
65	66	66	
66	66	66	
67	67	66	
68	67	66	
69	7C	7A/80	
70	78	7A/80	
71	80	80	
72	41	41	REC C current adj.
73	33	33	
74	C7	C7	
75	3C	3C	
76	Fixed data-2		
77			
78			
79			
7A			
7B	Fixed data-1		
7C			
7D			
7E			
7F			
80			
81			
82	3B	3B	AWB standard data input adj.
83	FF	FF	
84	56	56	
85	7D	7D	
86	Fixed data-1		
87			
88			
89			
8A			
8B			
8C			
8D	1B	1B	Flange back adj.
8E	54	54	
8F	25	25	
90	80	80	
91	10	10	
92	FF	FF	
93			

Address	Initial Value		Remark
	NTSC	PAL	
7C	0A	0A	Switching position adj.
7D	00	00	
7E	0A	0A	
7F	00	00	
80	Fixed data-2		
81			
82	Fixed data-1		
83			
84	Fixed data-2		
85	Fixed data-1		
86	Fixed data-2		
87	Fixed data-1		
88			
89			
8A			
8B			
8C			
8D			
8E	Fixed data-2		
8F	Fixed data-1		
90			
91			
92			
93			
94	Fixed data-2		
95			
96	Fixed data-1		
97			
98	Fixed data-2		
99	Fixed data-1		
9A	Fixed data-2		
9B	Fixed data-1		
9C	Fixed data-2		
9D	Fixed data-1		
9E	Fixed data-2		
9F	Fixed data-1		
A0	Fixed data-2		
A1			
A2			
A3			
A4			
A5	Fixed data-1		
A6	Fixed data-2		
A7			
A8			
A9			
AA	Fixed data-1		
AB			
AC	Fixed data-2		
AD	Fixed data-1		
AE	Fixed data-2		
AF	Fixed data-1		
B0			
B1			
B2			
B3			
B4			
B5			
B6			
B7			
B8			
B9			
BA			
BB			
BC			
BD			

Address	Initial Value		Remark
	NTSC	PAL	
BE	Fixed data-2		
BF			
C0	Fixed data-1		
C1			
C2			
C3			
C4			
C5	Fixed data-2		
C6	Fixed data-1		
C7			
C8	Fixed data-2		
C9			
CA	Fixed data-1		
CB			
CC			
CD			
CE			
CF			
D0			
D1			
D2			
D3			
D4			
D5			
D6			
D7			
D8			
D9	Fixed data-2		
DA	Fixed data-1		
DB			
DC	Fixed data-2		
DD	Fixed data-1		
DE			
DF			
E0			
E1			
E2			
E3	Fixed data-2		
E4			
E5	Fixed data-1		
E6	Fixed data-2		
E7	Fixed data-1		
E8			
E9			
EA			
EB	Fixed data-2		
EC			
ED	Fixed data-1		
EE			
EF			
F0			
F1			
F2	Fixed data-2		
F3	Fixed data-1		
F4			
F5	FF	FF	Color reproduction adj.
F6	F6	F4	
F7	Fixed data-1		
F8			
F9			
FA			
FB			
FC			
FD			
FE			
FF			

5. E Page Table

Note 1:

Fixed data-1 : Initialized data.

(Refer to “1. Initializing the D,E,F Page Data”.)

Fixed data-2 : Modified data.

(Refer to “2. Modification of D, E, F Page Data”).

Note 2: See “1-5. LCD SYSTEM ADJUSTMENT”.

Address	Initial Value		Remark
	NTSC	PAL	
00			Fixed data-1
01			
02			
03			
04			
05			
06			
07			
08			
09			
0A			
0B			
0C			
0D			
0E			
0F			
10			Fixed data-2
11			
12			
13			
14			
15			
16			
17			
18			
19			
1A			
1B			
1C			
1D			
1E			
1F			
20			Fixed data-1
21			
22			
23			
24			
25			
26			
27			
28			
29			
2A			
2B			
2C			
2D			
2E			
2F			Fixed data-1
30			
31			
32			
33			
34			
35			
36			
37			

Address	Initial Value		Remark
	NTSC	PAL	
38			Fixed data-2
39			
3A			
3B			Fixed data-1
3C			
3D			
3E			
3F			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
4A			
4B			
4C			
4D			
4E			
4F			Fixed data-2
50			Fixed data-1
51			Fixed data-2
52			Fixed data-1
53			
54			
55			
56			
57			
58			
59			Fixed data-2
5A			Fixed data-1
5B			
5C			Fixed data-2
5D			Fixed data-1
5E			
5F			
60			Fixed data-2
61			
62			
63			
64			
65			
66			
67			
68			Fixed data-1
69			
6A			
6B			Fixed data-2
6C			Fixed data-1
6D			
6E			Fixed data-2
6F			Fixed data-2
70			
71			
72			
73			Fixed data-2
74			Fixed data-1
75			Fixed data-2
76 to 99			Fixed data-1

Address	Initial Value		Remark
	NTSC	PAL	
9A			Fixed data-2
9B			Fixed data-1
9C			Fixed data-2
9D			Fixed data-1
9E			
9F			
A0			Fixed data-2
A1			
A2			
A3			
A4			Fixed data-1
A5			
A6			
A7			
A8			
A9			
AA			
AB			
AC			
AD			
AE			
AF			
B0			
B1			
B2			
B3			
B4			
B5			
B6			
B7			
B8			
B9			
BA			
BB			
BC			Fixed data-2
BD			
BE			
BF	Note2	Note2	Fixed data (NTSC model) VCO adj. (LCD) (PAL model)
C0			Fixed data-2
C1			
C2			Fixed data-1
C3			
C4			
C5			
C6			
C7			Fixed data-2
C8			
C9			
CA			
CB			
CC			Fixed data-1
CD			
CE			
CF	Note 2	Note2	Bright adj. (LCD)
D0	Note 2	Note2	Color adj. (LCD)
D1	Note 2	Note2	White balance adj. (LCD)
D2	Note 2	Note2	White balance adj. (LCD)
D3	Note 2	Note2	Contrast adj. (LCD)
D4	Note 2	Note2	D range adj. (LCD)
D5	Note 2	Note2	V-COM level adj. (LCD)
D6	Note 2	Note2	VCO adj. (LCD)
D7	Note 2	Note2	V-COM adj. (LCD)
D8			Fixed data-1

Address	Initial Value		Remark
	NTSC	PAL	
D9	Note 2	Note2	Fixed data (NTSC model) Color adj. (LCD) (PAL model)
DA			Fixed data-1
DB			Fixed data-2
DC			Fixed data-1
DD			
DE			
DF			
E0			
E1			
E2			
E3			
E4			
E5			
E6			
E7			
E8			
E9			
EA			Fixed data-2
EB			
EC			Fixed data-1
ED			
EE			
EF			Fixed data-2
F0			Fixed data-1
F1			
F2			
F3			Fixed data-2
F4			Fixed data-1
F5			
F6			
F7			
F8			
F9			
FA			
FB			
FC to FF			

1-3. CAMERA SYSTEM ADJUSTMENTS

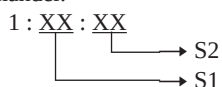
Before perform the camera system adjustments, Check that the specified value of “28MHz Origin Oscillation Adjustment”, “Y OUT level Adjustment” and “C OUT level Adjustment” of “VIDEO SYSTEM ADJUSTMENT” are satisfied.

1. G-CAM flip Adjustment

Set the color reproduction conditions to optimum.

Subject	Color bar chart standard picture frame
Measurement Point	Display data of page 1 of the adjusting remote commander (Note 1)
Measuring Instrument	
Adjustment Page	F
Adjustment Address	21

Note 1. Displayed data of page 1 of the adjusting remote commander.



Note 2. [] : Except CCD-TRV3E/TRV13E/TRV23E
< > : CCD-TRV3E/TRV13E/TRV23E

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 0, address: 03, and set data: 16.
- 3) Select page: F, address: 21, set data: [D2] <D0>, and press the PAUSE button of the adjusting remote commander.
- 4) Select page 1 of the adjusting remote commander, and compare the higher 2 digits (S1) and lower 2 digits (S2) of the 4-degits display data.
When $S1 < S2$
Perform steps 5) onwards.
When $S1 \geq S2$
Perform steps “Processing after Completing Adjustments”.
- 5) Select page: F, address: 21, set data: [52] <50>, and press the PAUSE button of the adjusting remote commander.

Processing after Completing Adjustments

- 1) Select page: 0, address: 03, and set data: 00.
- 2) Select page: 0, address: 01, and set data: 00.

2. HALL Adjustment

For detecting the position of the lens iris, adjust the hall AMP gain and offset.

Subject	Not required
Measurement Point	DDS display data of LCD or TV monitor (Note 3)
Measuring Instrument	
Adjustment Page	F
Adjustment Address	2F, 30
Specified Value	90 to 94 during IRIS OPEN (Note 1) 19 to 1D during IRIS CLOSE (Note 2)

Note 1: Select page: 2, address: 01, set data: 01, and press the PAUSE button of the adjusting remote commander.

Note 2: Select page: 2, address: 01, set data: 03, and press the PAUSE button of the adjusting remote commander.

Note 3: DDS display data of LCD or TV monitor.

00 00XX

→ Object data

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 0, address: 03, and set data: 03.
- 3) Select page: D, address: 11, set data: 02, and press the PAUSE button of the adjusting remote commander.
- 4) Select page: 2, address: 01, set data: 03, and press the PAUSE button.
- 5) Select page: F, address: 30, set data: 80, and press the PAUSE button.
- 6) Select page: F, address: 2F, set data: 40, and press the PAUSE button.
- 7) Read the DDS display data (the bottom two digits of the display data at the bottom right of the LCD display or the TV monitor), and this data is named K₂.
- 8) Select page: F, address: 2F, set data: 30, and press the PAUSE button.
- 9) Read the DDS display data, and this data is named K₁.
- 10) Select page: 2, address: 01, set data: 01, and press the PAUSE button.
- 11) Read the DDS display data, and this data is named W₁.
- 12) Select page: F, address: 2F, set data: 40, and press the PAUSE button.
- 13) Read the DDS display data, and this data is named W₂.
- 14) Convert W₁, W₂, K₁, K₂ to decimal notation, and obtain W₁', W₂', K₁', K₂'. (Refer to Table 5-1-2. "Hexadecimal notation - decimal notation conversion table".)
- 15) Calculate X₁' using the following equations (decimal notation calculation).

$$A' = W_2' + K_1' - W_1' - K_2' \quad \text{Equation 1}$$

$$B' = W_1' - K_1' \quad \text{Equation 2}$$

$$X_1' = [1904 + (48 \times A') - (16 \times B')] / A' \quad \text{Equation 3}$$
- 16) Convert X₁' to hexadecimal notation, and obtain X₁. (Round off to one decimal place)
- 17) Select page: F, address: 2F, set data: X₁, and press the PAUSE button.
- 18) Select page: 2, address: 01, and set data: 01, and press the PAUSE button.
- 19) Select page: F, address: 30, change the data and adjust the DDS display data to "92".
- 20) Press the PAUSE button of the adjusting remote commander.
- 21) Select page: 2, address: 01, and set data: 03, and press the PAUSE button.

22) Read the DDS display data, and this data is named K₀. If K₀ lies within the "19" to "1D" range, perform "Processing after completing adjustments". If it lies outside the range, perform the following adjustments.

23) Convert K₀ to decimal notation, and obtain K₀'.

24) Calculate X₂' using the following equations (decimal notation calculation).

$$C' = 146 - B' - K_0' \quad \text{Equation 4}$$

$$X_2' = [(119 - B') \times (X_1' - 48) + (48 \times C')] / C' \quad \text{Equation 5}$$

(X₁' and B' are values obtained from equations 2) and 3))

25) Convert X₂' to hexadecimal notation, and obtain X₂.

(Round off to one decimal place)

26) Select page: F, address: 2F, set data: X₂, and press the PAUSE button.

27) Select page: 2, address: 01, set data: 03, and press the PAUSE button.

28) Select page: F, address: 30, change the data and adjust the DDS display data to "1B".

29) Press the PAUSE button of the adjusting remote commander.

30) Select page: 2, address: 01, set data: 01, and press the PAUSE button.

31) Check the DDS display data lies within the "90" to "94" range.

Processing after Completing Adjustments

- 1) Select page: D, address: 11, and set data: 00, and press the PAUSE button.
- 2) Select page: 0, address: 01, and set data: 00.
- 3) Select page: 2, address: 01, and set data: 00, and press the PAUSE button.
- 4) Select page: 0, address: 03, and set data: 00.

3. Flange Back Adjustment

The inner focus lens flange back adjustment is carried out automatically. In whichever case, the focus will be deviated during auto focusing/manual focusing.

3-1. Flange Back Adjustment(1)

Subject	Flange back adjustment chart (2.0 m from the front of the lens) (Luminance: 300 ± 50 lux)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	3E to 42, 76 to 7B

Switch setting:

- 1) NIGHT SHOT switch..... OFF

Adjusting method:

- 1) Check that at both the zoom lens TELE end and WIDE end, the center of the chart for the flange back adjustment and center of the exposure screen coincide.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Check that the data of page: F, address: 3E to 42, 76 to 7B is the initial value (See table below).

Address	Data	Address	Data
3E	25	77	54
3F	00	78	25
40	19	79	80
41	00	7A	10
42	35	7B	FF
76	1B		

- 4) Select page: 2, address: 02, and check that the data is "00".
- 5) Select page: 2, address: 01, set data: 13, and press the PAUSE button of the adjusting remote commander.
- 6) Select page: 2, address: 01, set data: 15, and press the PAUSE button of the adjusting remote commander.
(The adjustment data will be automatically input to page: F, addresses: 3E to 42, 76 to 7B.)
- 7) Select page: 2, address: 02, and check that the data is „01“.

Processing after Completing Adjustments

- 1) Turn OFF the main power supply (8.4V).
- 2) Perform "Flange Adjustment (2)".

3-2. Flange Back Adjustment (2)

Perform this adjustment after performing "Flange Back Adjustment (1)".

Subject	Subject more than 500m away (Subjects with clear contrast such as buildings, etc.)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	3E to 42, 76 to 7B

Switch setting:

- 1) NIGHT SHOT switch OFF

Adjusting method:

- 1) Set the zoom lens to the TELE end and expose a subject that is more than 500 m away (subject with clear contrast such as building, etc.). (Nearby subjects less than 500 m away should not be in the screen.)
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: 2, address: 02, and check that the data is "00".
- 4) Select page: 2, address: 01, set data: 13, and press the PAUSE button of the adjusting remote commander.
- 5) Place a ND filter on the lens so that the optimum image is obtain.
- 6) Select page: 2, address: 01, set data: 29, and press the PAUSE button of the adjusting remote commander.
(The adjustment data will be automatically input to page: F, addresses: 3E to 42, 76 to 7B.)
- 7) Select page: 2, address: 02, and check that the data is "01".

Processing after Completing Adjustments

- 1) Select page: 0, address: 01, and set data: 00.
- 2) Turn OFF the main power supply (8.4V).
- 3) Perform "Flange Back Check".

4. Flange Back Check

Subject	Siemens star (2.0 m from the front of the lens) (Luminance: approx. 200 lux)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	3E to 42, 76 to 7B

Switch setting:

- 1) NIGHT SHOT switch..... OFF

Checking method:

- 1) Place the Siemens star 2.0m from the front of the lens.
- 2) To open the IRIS, decrease the luminous intensity to the Siemens star up to a point before noise appear on the image.
- 3) Select page: 2, address: 40, and set data: 02.
- 4) Select page: 2, address: 41, and set data: 01.
- 5) Shoot the Siemens star with the zoom TELE end.
- 6) Turn on the auto focus.
- 7) Check that the lens is focused (Note1).
- 8) Select page: 2, address: 21, and set data: 10.
- 9) Shoot the Siemens star with the zoom WIDE end.
- 10) Observe the TV monitor and check that the lens is focused.

Note 1: When the auto focus is ON, the lens can be checked if it is focused or not by observing the data on the page 1 of the adjusting remote commander.

- 1) Select page: 0, address: 03, and set data: 0F.
- 2) Page 1 shows the state of the focus.

1 : 00 : XX

→ Odd: Focused
Even: Unfocused

Processing after Completing Adjustments

- 1) Select page: 2, address: 21, and set data: 00.
- 2) Select page: 0, address: 03, and set data: 00.
- 3) Select page: 2, address: 40, and set data: 00.
- 4) Select page: 2, address: 41, and set data: 00.

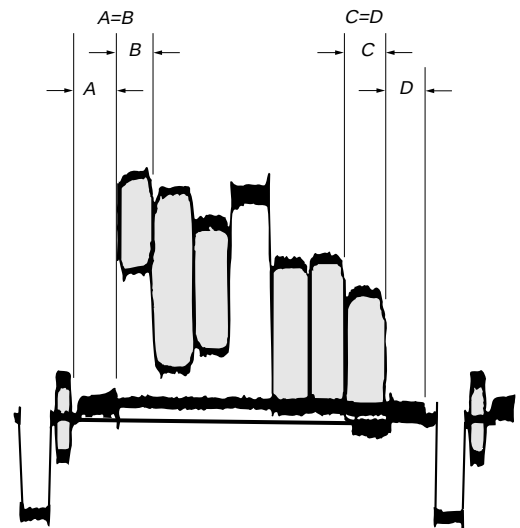
5. Picture Frame Setting

Subject	Color bar chart standard picture frame (1.5m from the front of the lens)
Measurement Point	Video output terminal
Measuring Instrument	Oscilloscope and TV monitor
Specified Value	A=B, C=D, $t=0 \pm 0.1\text{msec}$

Setting method:

- 1) Adjust the zoom and the camera direction, and set to the specified position.
- 2) Mark the position of the picture frame on the monitor display, and adjust the picture frame to this position in following adjustments using "Color bar chart standard picture frame".

1. Horizontal period



2. Vertical period

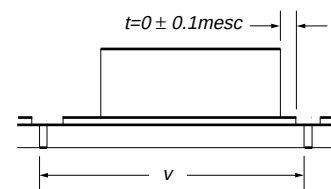


Fig. 5-1-8.

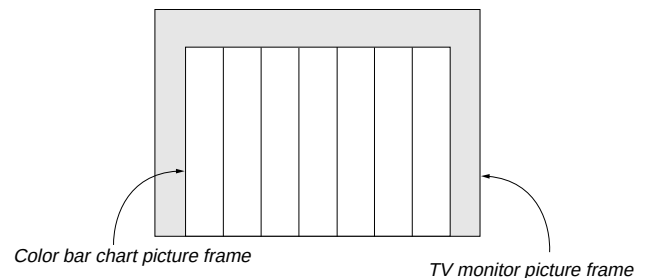


Fig. 5-1-9.

6. Color Reproduction Adjustment

Adjust the color Separation matrix coefficient so that proper color reproduction is produced.

Subject	Color bar chart standard picture frame
Measurement Point	Video output terminal
Measuring Instrument	Vectorscope
Adjustment Page	F
Adjustment Address	34, 36, F5, F6
Specified Value	All color luminance points should settle within each color reproduction frame.

Note1: NTSC 760H model (CCD-TRV75/TRV75PK/TRV715)
PAL 510H model (CCD-TRV3E/TRV13E/TRV23E)
PAL 760H model (CCD-TRV45E/TRV55E/TRV65E/TRV69E)

Switch setting:

- 1) NIGHT SHOT switch..... OFF

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 2, address: 01, set data: 3D, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: F, address: 25, set data: 3F, and press the PAUSE button of the adjusting remote commander.
- 4) Adjust the GAIN and PHASE of the vectorscope, and adjust the burst luminance point to the burst position of the color reproduction frame.
- 5) Change the data of page: F, address: 34, 36, F5 and F6, and settle each color luminance point in each color reproduction frame.

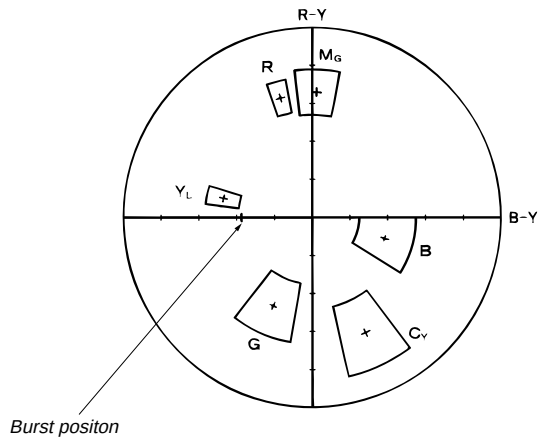
Note 2: Be sure to press the PAUSE button of the adjusting remote commander before changing the addresses. If not, the new data will not be written to the memory.

- 6) Press the PAUSE button of the adjusting remote commander.

Processing after Completing Adjustments

- 1) Select page: 2, address: 01, and set data: 00, and press the PAUSE button of the adjusting remote commander.
- 2) Select page: 0, address: 01, and set data: 00.

For NTSC 760H model



For PAL 510H/PAL 760H model

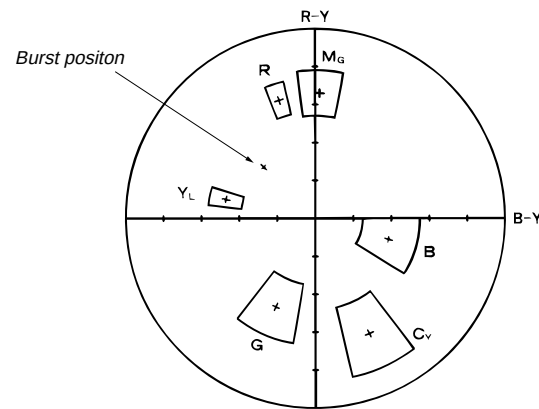


Fig. 5-1-10.

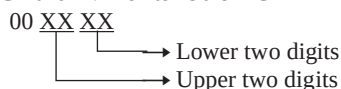
7. IRIS IN/OUT Adjustment

For the unit to judge if the white balance is indoors or outdoors in auto white balance operations, measure the light level and write it in the EEPROM.

If the level is not correct, the white balance will not be accurate.

Subject	Clear chart (Color bar standard picture frame)
Measurement Point	DDS display of LCD or TV monitor
Measuring Instrument	(Note 1)
Adjustment Page	F
Adjustment Address	3C, 3D

Note 1: The right four digits of the display data at the right bottom side of the LCD and TV monitor is the LIGHT LEVEL data.



Switch setting:

- 1) STEADY SHOT (Menu display) OFF
- 2) NIGHT SHOT switch OFF

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 0, address: 03, and set data: 06.
- 3) Select page: D, address: 11, and set data: 02, and press the PAUSE button of the adjusting remote commander.
- 4) Select page: 2, address: 40, and set data: 02.
- 5) Select page: 2, address: 01, set data: 0B, and press the PAUSE button of the adjusting remote commander.
- 6) Read the DDS display data (Note 1), and take the upper two digits as D₁ and the lower two as D₂.
- 7) Convert D₁ to decimal notation, and obtain D₁'. (Refer to Table 5-1-2. "Hexadecimal notation - decimal notation conversion table" of "Service mode".)
- 8) Calculate D₃' using the following equations. (Equations 1 and 2 are for decimal notation calculation).
 When D₂ ≥ D₀
 D₃' = D₁' - 21 Equation 1
 When D₂ < D₀
 D₃' = D₁' - 22 Equation 2
- 9) Convert D₃' to hexadecimal notation, and obtain D₃.
- 10) Select page: F, address: 3C, set data: D₃, and press the PAUSE button of the adjusting remote commander.
- 11) Select page: 2, address: 01, set data: 09, and press the PAUSE button of the adjusting remote commander.
- 12) Read the DDS display data (Note 1), and take the upper two digits as D₄ and the lower two as D₅.
- 13) Convert D₄ to decimal notation, and obtain D₄'. (Refer to Table 5-1-2. "Hexadecimal notation - decimal notation conversion table".)
- 14) Calculate D₆' using the following equations. (Equations 3 and 4 are for decimal notation calculation).
 When D₅ ≥ F₀
 D₆' = D₄' - 13 Equation 3
 When D₅ < F₀
 D₆' = D₄' - 14 Equation 4
- 15) Convert D₆' to hexadecimal notation, and obtain D₆.
- 16) Select page: F, address: 3D, set data: D₆, and press the PAUSE button of the adjusting remote commander.

Processing after Completing Adjustments

- 1) Select page: D, address: 11, and set data: 00, and press the PAUSE button of the adjusting remote commander.
- 2) Select page: 0, address: 01, and set data: 00.
- 3) Select page: 2, address: 01, and set data: 00, and press the PAUSE button of the adjusting remote commander.
- 4) Select page: 2, address: 40, and set data: 00.
- 5) Select page: 0, address: 03, and set data: 00.

8. MAX GAIN Adjustment

Setting the minimum illumination.

If it is not consistent, the image level required for taking subjects in low illuminance will not be produced (dark).

Subject	Clear chart (Color bar standard picture frame)
Measurement Point	DDS display of LCD or TV monitor
Measuring Instrument	(Note 1)
Adjustment Page	F
Adjustment Address	31
Specified Value	C0 to FF

Note 1: The right two digits of the display data at the right bottom side of the LCD and TV monitor is the object data.



Note 2: NTSC 760H model (CCD-TRV75/TRV75PK/TRV715)
 PAL 510H model (CCD-TRV3E/TRV13E/TRV23E)
 PAL 760H model (CCD-TRV45E/TRV55E/TRV65E/TRV69E)

Switch setting:

- 1) STEADY SHOT (Menu display) OFF
- 2) NIGHT SHOT switch OFF

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 11, and set data: 02, and press the PAUSE button of the adjusting remote commander.
- 3) Select of page: 0, address: 03, and set data: 01.
- 4) Select page: 2, address: 40, and set data: 02.
- 5) Select page: 2, address: 56, and set data: 40.
- 6) Select page: 2, address: 01, set data: 19, and press the PAUSE button of the adjusting remote commander.
- 7) Select page: F, address: 31, set data: [18] <08>, and press the PAUSE button of the adjusting remote commander.
 Note : [] : 510H model
 < > : 760H model
- 8) Check that the DDS display data (Note 1) lies within the specified value.

Processing after Completing Adjustments

- 1) Select page: D, address: 11, and set data: 00, and press the PAUSE button of the adjusting remote commander.
- 2) Select page: 0, address: 01, and set data: 00.
- 3) Select page: 2, address: 01, and set data: 00, and press the PAUSE button of the adjusting remote commander.
- 4) Select page: 2, address: 40, and set data: 00.
- 5) Select page: 2, address: 56, and set data: 00.
- 6) Select page: 0, address: 03, and set data: 00.

10. Auto White Balance Adjustment

Adjust to the proper auto white balance output data.
If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (Color bar standard picture frame)
Filter	Filter C14 for color temperature correction
Measurement Point	DDS display of LCD or TV monitor (Note 1)
Measuring Instrument	
Adjustment Page	F
Adjustment Address	3A, 3B
Specified Value	R ratio: 2B40 to 2BC0 B ratio: 5E40 to 5EC0

Adjust to the proper auto white balance output data.
If it is not correct, auto white balance and color reproducibility will be poor.

Note 1: Perform “Auto White Balance Standard Data Input” before this adjustment.

Note 2: The right four digits of the display data at the right bottom side of the LCD and TV monitor is the object data.

00 XXXX
 ↓
 Object data

Switch setting:

- 1) NIGHT SHOT switch OFF

Adjusting method:

- 1) Place the C14 filter for color temperature correction on the lens.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: D, address: 11, and set data: 02, and press the PAUSE button of the adjusting remote commander.
- 4) Select page: 2, address: 01, and set data: 3F, and press the PAUSE button of the adjusting remote commander.
- 5) Select page: 0, address: 03, and set data: 04.
- 6) Select page: F, address: 3A, and change the data, and adjust the average value of the DDS display data(Note 2) to the R ratio specified value.
- 7) Press the PAUSE button of the adjusting remote commander.
- 8) Select page: 0, address: 03, and set data: 05.
- 9) Select page: F, address: 3B, and change the data, and adjust the average value of the DDS display data(Note 2) to the B ratio specified value.
- 10) Press the PAUSE button of the adjusting remote commander.

Processing after Completing Adjustments

- 1) Select page: D, address: 11, and set data: 00, and press the PAUSE button of the adjusting remote commander.
- 2) Select page: 0, address: 01, and set data: 00.
- 3) Select page: 2, address: 01, and set data: 00, and press the PAUSE button of the adjusting remote commander.
- 4) Select page: 0, address: 03, and set data: 00.

11. White Balance Check

Subject	Clear chart (Color bar standard picture frame)
Filter	Filter C14 for color temperature correction ND filter 1.0 and 0.3
Measurement Point	video output terminal
Measuring Instrument	Vectorscope
Specified Value	Fig. 5-1-11. A to C

Switch setting:

- 1) NIGHT SHOT switch OFF

Checking method:

- 1) Check that the lens is not covered with either filter.
- 2) Select page: 2, address: 01, set data: 0F, and press the PAUSE button of the adjusting remote commander.
- 3) Check that the center of the white luminance point is within the circle shown Fig. 5-1-11.A.
- 4) Select page: 2, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 5) Select page: 2, address: 01, set data: 23, and press the PAUSE button of the adjusting remote commander.
- 6) Place the C14 filter on the lens.
- 7) Check that the center of the white luminance point settles in the circle shown Fig. 5-1-11.B.
- 8) Remove the C14 filter, and place the ND filter 1.3 (1.0 +0.3) on the lens.
- 9) Check that the white luminance point stopped moving, and then remove the ND filter 1.3.
- 10) Check that the center of the white luminance point settles within the circle shown Fig. 5-1-11.C.

Processing after Completing Adjustments

- 1) Select page: 2, address: 01, and set data: 00, and press the PAUSE button of the adjusting remote commander.

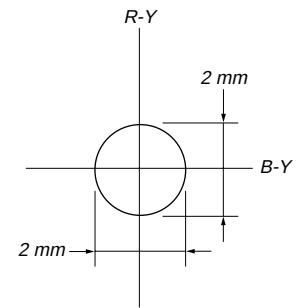


Fig.5-1-11. A

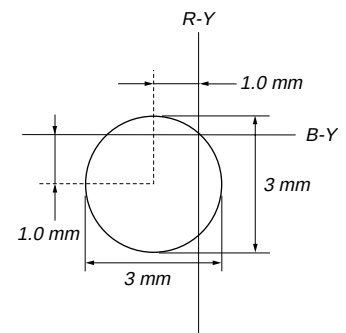


Fig.5-1-11. B

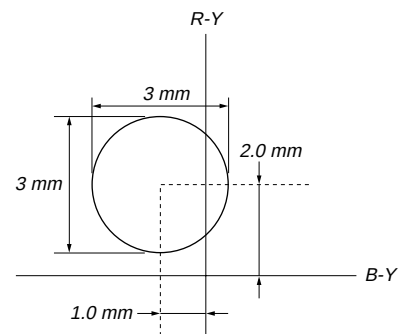


Fig.5-1-11. C

**12. Angular Velocity Sensor Sensitivity Adjustment
(CCD-TRV45E/TRV55E/TRV65E/TRV69E/TRV75/TRV75PK/
TRV715)**

- This adjustment is performed only when replacing the angular velocity sensor.
Although this adjustment need not be performed when the circuit is damaged, etc., check the operations.
- Note down the sensitivity displayed on the angular velocity sensor of the repair parts. At this time, note down also to which board it was attached to.
Be sure to check because if attached incorrectly, the screen will vibrate up and down or left and right during hand-shake correction operations.

Precautions on the Parts Replacement

There are two types of repair parts.

Type A : ENC03EA or ENC 03JA

Type B : ENC03EB or ENC 03JB

Replace the broken sensor with a same type sensor. If replace with other parts, the image will vibrate up and down or left and right during hand-shake correction operations. After replacing, re-adjust according to the adjusting method after replacement.

Precautions on Angular Velocity Sensor

The sensor incorporates a precision oscillator. Handle it with care as if it dropped, the balance of the oscillator will be disrupted and operations will not be performed properly.

Adjustment page	F
Adjustment Address	43, 44

Note: The sensor sensitivity of SE451 and SE452 of the SE-66/67 board is written only on the repair parts.

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Read the sensor sensitivity written on SE451 of the SE-66/67 board, and take this as S_{451} .
- 3) Read the sensor sensitivity written on SE452 of the SE-66/67 board, and take this as S_{452} .
- 4) Calculate D_{43}' and D_{44}' using the following equation (decimal calculation).
NTSC model(CCD-TRV75/TRV75PK/TRV715)
$$D_{43}' = 85 / S_{451}$$
$$D_{44}' = 90 / S_{452}$$

PAL model (CCD-TRV45E/TRV55E/TRV65E/TRV69E)
$$D_{43}' = 118 / S_{451}$$
$$D_{44}' = 106 / S_{452}$$
- 5) Convert D_{43}' and D_{44}' into hexadecimal digits, to obtain D_{43} and D_{44} . (Round off decimal points)
- 6) Select page: F, address: 43, set data: D_{43} , and press the PAUSE button of the adjusting remote commander.
- 7) Select page: F, address: 44, set data: D_{44} , and press the PAUSE button of the adjusting remote commander.

Processing after Completing Adjustments

- 1) Select page: 0, address: 01, and set data: 00.
- 2) Check that the steady shot operations have been performed normally.

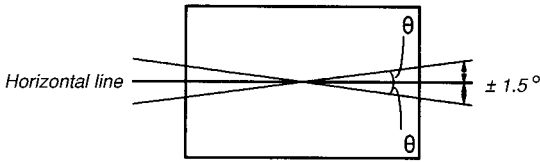
1-4. MONOCHROME ELECTRONIC VIEWFINDER
SYSTEM ADJUSTMENTS

Note: NTSC model: CCD-TRV75/TRV75PK/TRV715
PAL model : CCD-TRV3E/TRV13E/TRV23E/TRV45E/
TRV55E/TRV65E/TRV69E

1-4-1. Horizontal Slant Check

Mode	Playback
Signal	Alignment tape : For checking operations (WR5-5NSP (NTSC)) (WR5-5CSP (PAL)) Monoscope section
Specified Value	$\pm 1.5^\circ$

- Adjusting method:
- 1) Adjust RV904 (BRIGHT) (VF-99 board) so that the CRT can be seen easily and clearly.
 - 2) Check that the difference between the horizontal line and the tilt of the black mask satisfies the specified value.



Specified value : The image should be within $\pm 1.5^\circ$ of the horizontal line.

Fig. 5-1-12.

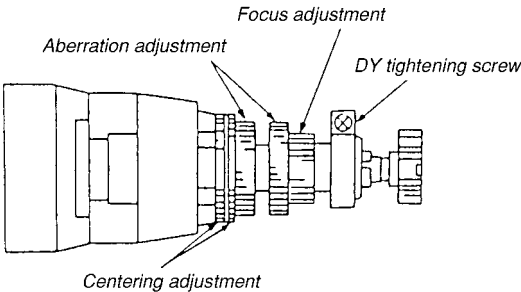
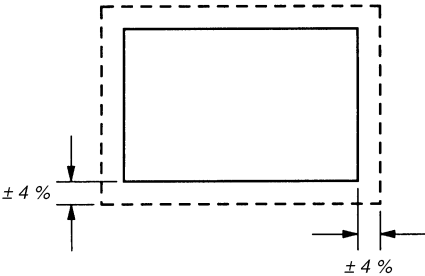


Fig. 5-1-13.

1-4-2. Centering Adjustment

Mode	Playback
Signal	Alignment tape : For checking operations (WR5-5NSP (NTSC)) (WR5-5CSP (PAL)) Monoscope section
Specified Value	$\pm 4\%$

- Adjusting method:
- 1) Use the centering adjustment ring and adjust so that the left, right, top, and bottom sides of the display are uniform. (Refer to Fig. 5-1-13.)
- Note :** As the centering position changes due to earth magnetism, rotate it 360° in the horizontal direction, and adjust with the center section of the modifying position.



Adjustment value : $\pm 4\%$

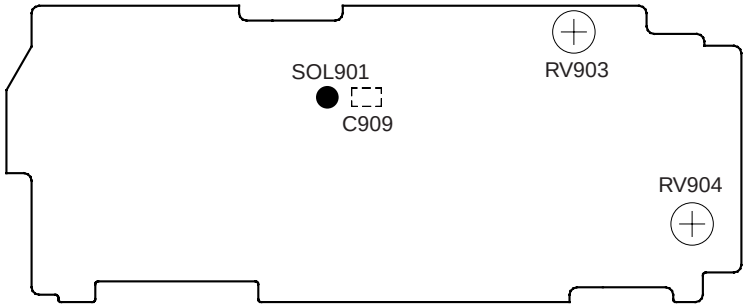
Fig. 5-1-14.

1-4-3. Focus Adjustment

Mode	Playback
Signal	Alignment tape : For checking operations (WR5-5NSP (NTSC)) (WR5-5CSP (PAL)) Monoscope section

- Adjusting method:
- 1) Adjust the focus ring to obtain the optimum focus. (Refer to Fig. 5-1-13.)

VF-99 BOARD (SIDE A)



1-4-4. Aberration Adjustment

Mode	VTR stop
Signal	Dot pattern
Specified Value	$b1 \leq 2 \cdot a1$ $b2 \leq 0.8 \cdot a2$

Adjusting method:

- 1) Adjust the aberration adjustment ring so that the tracing of the dot satisfies the specified value.
- 2) If the centering becomes displaced here, perform the centering adjustment from the beginning again.

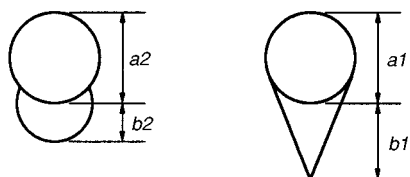


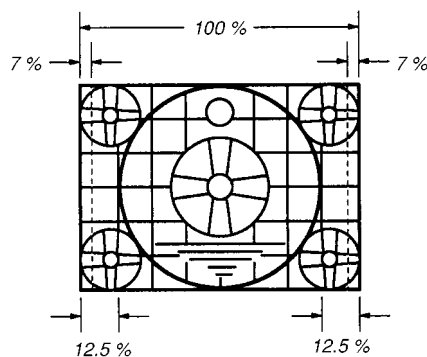
Fig. 5-1-15.

1-4-5. Horizontal Amplitude Adjustment (VF-99 board)

Mode	Playback
Signal	Alignment tape : For checking operations (WR5-5NSP (NTSC)) (WR5-5CSP (PAL)) Monoscope section
Adjusting Element	C909 (SOL901)
Specified Value	$\pm 1.5^\circ$

Adjusting method:

- 1) Rotate RV903, and adjust the top and bottom sides of the monoscope image to the top and bottom edges of the display.
- 2) Rotate RV904 so that the brightness is the normal level.
- 3) Solder or unsolder SOL901 pattern of the H size adjustment capacitor (C909) to "short" or "open", so that the horizontal direction over scan becomes $14 \pm 6\%$ (Left and right totals).



SOL901	Size H
Open	Small
Short	Big

VF-99 BOARD (SIDE A)

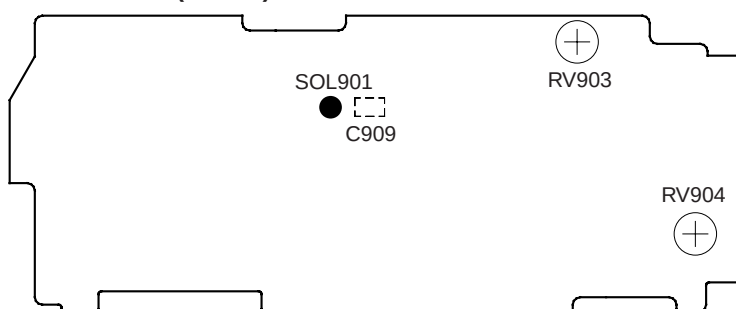


Fig. 5-1-16.

1-4-6. Vertical Amplitude Adjustment (VF-99 board)

Mode	Playback
Signal	Alignment tape : For checking operations (WR5-5NSP (NTSC)) (WR5-5CSP (PAL)) Monoscope section
Adjusting Element	RV903
Specified Value	$10 \pm 3\%$

Adjusting method:

- 1) Adjust RV903 so that the vertical direction over scan becomes $10 \pm 3\%$ (Top and bottom totals).

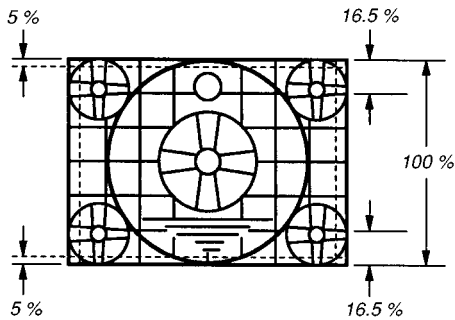


Fig. 5-1-17.

1-4-7. Brightness Adjustments (VF-99 board)

Mode	Playback
Signal	Alignment tape : For checking operations (WR5-5NSP (NTSC)) (WR5-5CSP (PAL)) Monoscope section
Specified Value	RV904

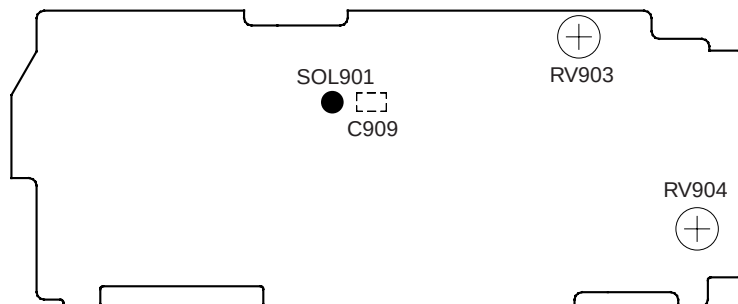
Adjusting method:

- 1) Rotate RV904, and adjust so that the bright/dark sections of the gray scale are displayed correctly. (The bright section should be unsatisfactory till the cross hatch appears vague in the monoscope circle. The dark section should be unsatisfactory till the darkest section and the second darkest section of the gray scale cannot be differentiated.)

1-4-8. Horizontal Amplitude, Vertical Amplitude, Focus Check

“1-4-5. Horizontal Amplitude Adjustment” and “1-4-6. Vertical Amplitude Adjustment” should both satisfy the specified values. If not, perform the adjustments from the beginning again. In this case, perform “1-4-7. Brightness, Contrast Adjustments” again. Moreover, check the focus, and if it found to be vague, perform “1-4-3. Focus Adjustment” and “1-4-4. Aberration Adjustment”.

VF-99 BOARD (SIDE A)



1-5. LCD SYSTEM ADJUSTMENT

Note1: The back light (fluorescent tube) is driven by a high voltage AC power supply. Therefore, do not touch the back light holder to avoid electrical shock.

Note2: When replacing the LCD unit, be careful to prevent damages caused by static electricity.

Note3: Set the brightness to the center using the LCD BRIGHT button.

Note4: 2.5"LCD model:
PD-92board, Ref. No.5000 series
3"/3.5"LCD model:
PD-93board, Ref. No.4000 series

Note5: 2.5" LCD model :
CCD-TRV3E/TRV13E/TRV23E/TRV65E/TRV69E
3" LCD model : CCD-TRV75/TRV75PK/TRV715
3.5" LCD model : CCD-TRV45E/TRV55E

[Adjusting connector]

Most of the measuring points for adjusting the LCD display are concentrated in the following connector.

CN5501 of the PD-92 board (2.5"LCD model)

CN4501 of the PD-93 board (3"/3.5"LCD model)

Connect the measuring instruments via the multi CPC jig (J-6082-311-A).

The following table shows the Pin No. and signal name of the connector.

Pin No.	Signal name	Pin No.	Signal name
1	VB	2	VCO VOLTAGE.
3	VG	4	PANEL COM
5	VR	6	N.C.
7	SYNC / HD	8	H START
9	GND	10	GND

[LCD type check]

By measuring the resistor value between Pin ⑥ of CN5501/4501 and Pin ⑩ of CN5501/4501, the type of LCD can be discriminated.

PD-92board CN5501

Resistor value	LCD type	Model
8.2kΩ	2.5" TYPE S (61k)	CCD-TRV23E
6.8kΩ	2.5" TYPE S (84k)	CCD-TRV65E/TRV69E
3.9kΩ	2.5" TYPE C PAL	CCD-TRV3E/ TRV13E

PD-93board CN4501

Resistor value	LCD type	Model
4.7kΩ	3" TYPE S NTSC	CCD-TRV75/TRV75PK/ TRV715
6.8kΩ	3.5" TYPE S PAL	CCD-TRV45E/TRV55E

1. LCD Initial Data Input

Mode	VTR stop
Signal	Arbitrary
Adjustment Page	E
Adjustment Address	A5 to A7, B0 to B9, BF, C0, C1, CF, D0 to DD

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.

2) Select page: D, and input the data in the following table.

Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the data.

3) Select page: 0, address: 01, and set data: 00.

Address	Data	Remark
A5	53	Fixed value
A6	96	Fixed value
A7	68	Fixed value
B0	3F	Fixed value
B1	C8	Fixed value
B2	1F	Fixed value
B3	1F	Fixed value
B4	00	Fixed value
B5	00	Fixed value
B6	Note1	Fixed value
B7	4E	Fixed value
B8	08	Fixed value
B9	00	Fixed value
BF	80	[VCO adjustment] <Fixed value>
C0	Note2	Fixed value
C1	Note3	Fixed value
CF	69/84	Bright adjustment (Note 5)
D0	7A/77	Color adjustment (Note 5)
D1	AA/98	White balance adjustment (Note 5)
D2	9C/7B	White balance adjustment (Note 5)
D3	B1/DC	Contrast adjustment (Note 5)
D4	B1/80	D range adjustment (Note 5)
D5	94/89	V-COM level adjustment (Note 5)
D6	80	VCO adjustment
D7	80	V-COM level adjustment
D8	80	Fixed value
D9	Note4	[Color adjustment] <Fixed value>
DA	80	Fixed value
DB	52	Fixed value
DC	99	Fixed value
DD	99	Fixed value

< > : NTSC model only

[] : PAL model only

Note1: B0: NTSC model

F0: PAL model

Note2: A4: 2.5" LCD model

8B: 3" LCD model

91: 3.5" LCD model

Note3: D8: 2.5" LCD TYPE S model

CF: 2.5" LCD TYPE C model

B8: 3" LCD model

B7: 3.5" LCD model

Note4: 00: NTSC model

7A: LCD TYPE S PAL model

77: LCD TYPE C PAL model

Note5: LCD TYPE S/LCD TYPE C

2. VCO Adjustment (PD-92/93 board)

Set the VCO freerun frequency. If deviated, the LCD screen will be blurred.

Mode	VTR stop
Signal	No signal
Measurement point	Pin ② of CN5501/4501 (VCO VOLTAGE) of PD-92/93 board
Measuring instrument	Oscilloscope
Adjustment page	E
Adjustment address	D6 (NTSC) D6, BF (PAL)
Specified value	A = $2.75 \pm 0.02V$ (LCD TYPE S model) A = $1.70 \pm 0.02V$ (LCD TYPE C model)

Note1: NTSC model: CCD-TRV75/TRV75PK/TRV715
PAL model: CCD-TRV3E/TRV13E/TRV23E/TRV45E/
TRV55E/TRV65E/TRV69E

Note2 : LCD TYPE S model : CCD-TRV23E/TRV45E/
TRV55E/TRV65E/TRV69E/
TRV75/TRV75PK/TRV715
LCD TYPE C model : CCD-TRV3E/TRV13E

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 55, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: 2, address: 7D, and set data: 00.
- 4) Select page: E, address: D6, change the data and set the VCO VOLTAGE (A) to the specified value.
- 5) Press the PAUSE button of the adjusting remote commander.
- 7) Only for PAL model, select page: E, address: D6, and read the data (D_{D6}).
- 8) Only for PAL model, calculate the adjustment data (hexadecimal) from the following equations (hexadecimal calculation), and input to address: BF. (Refer to Table 5-1-2. Hexadecimal-Decimal conversion Table.)

CCD-TRV23E/TRV65E/TRV69E :

$$DBF = D_{D6}$$

CCD-TRV45E/TRV55E :

$$\text{When } D_{D6} \geq 10 \\ DBF = D_{D6} - 10$$

$$\text{When } D_{D6} < 10 \\ DBF = 00$$

CCD-TRV3E/TRV13E :

$$\text{When } D_{D6} \geq 55 \\ DBF = D_{D6} - 55$$

$$\text{When } D_{D6} < 55 \\ DBF = 00$$

Note2: After setting data, be sure to press the PAUSE button.

- 9) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 10) Select page: 0, address: 01, and set data: 00.

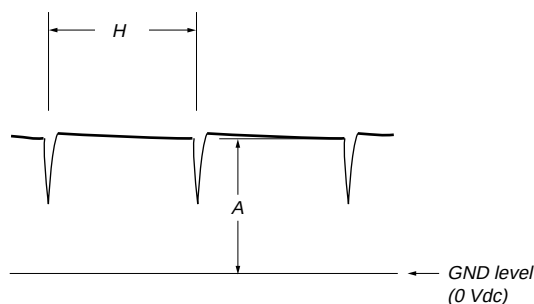


Fig. 5-1-18.

3. D range Adjustment (PD-92/93 board)

Set the D range of the RGB decoder used to drive the LCD to the specified value. If deviated, the LCD screen will become blackish or saturated (whitish).

Mode	VTR stop
Signal	No signal
Measurement point	Pin ③ of CN5501/4501 (VG) of PD-92/93 board External trigger : Pin ④ of CN5501/ CN4501 (PANEL COM)
Measuring instrument	Oscilloscope
Adjustment page	E
Adjustment address	D4
Specified value	A = $3.62 \pm 0.05V$ (LCD TYPE S model) A = $2.98 \pm 0.05V$ (LCD TYPE C model)

Note1 : Press the DISPLAY button and erase the screen indicators on the LCD screen.

Note2 : LCD TYPE S model : CCD-TRV23E/TRV45E/
TRV55E/TRV65E/TRV69E/
TRV75/TRV75PK/TRV715
LCD TYPE C model : CCD-TRV3E/TRV13E

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 55, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: 2, address: 7D, and set data: 00.
- 4) Select page: E, address: D4, change the data and set the voltage (A) between the reversed waveform pedestal and non-reversed waveform pedestal to the specified value.
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 7) Select page: 0, address: 01, and set data: 00.

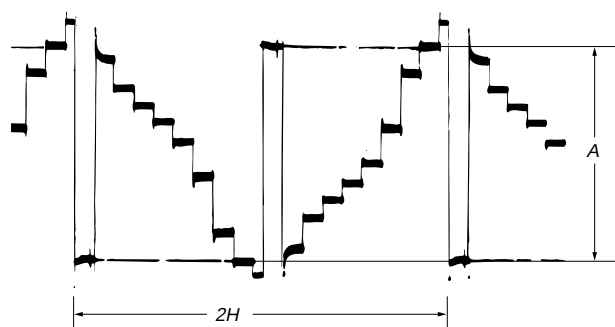


Fig. 5-1-19.

4. Bright Adjustment (PD-92/93 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	VTR stop
Signal	No signal
Measurement point	Pin ③ of CN5501/4501 (VG) of PD-92/93 board External trigger : Pin ④ of CN5501/CN4501 (PANEL COM)
Measuring instrument	Oscilloscope
Adjustment page	E
Adjustment address	CF
Specified value	A = $1.94 \pm 0.05V$ (LCD TYPE S model) A = $1.34 \pm 0.05V$ (LCD TYPE C model)

Note1 : LCD TYPE S model : CCD-TRV23E/TRV45E/
TRV55E/TRV65E/TRV69E/
TRV75/TRV75PK/TRV715
LCD TYPE C model : CCD-TRV3E/TRV13E

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 55, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: 2, address: 7D, and set data: 40.
- 4) Select page: E, address: CF, change the data and set the voltage (A) between the pedestal and white to the specified value. (The data of address: CF should be "41" to "BF".)
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 7) Select page: 2, address: 7D, and set data: 00.
- 8) Select page: 0, address: 01, and set data: 00.

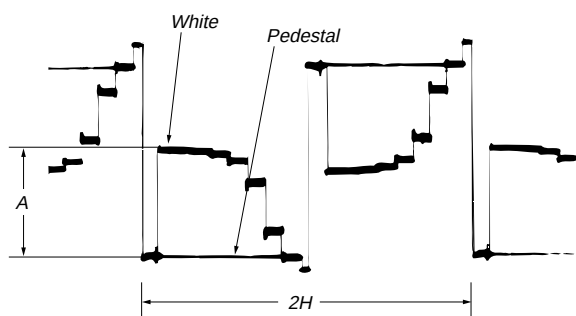


Fig. 5-1-20.

5. Contrast Adjustment (PD-92/93 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	VTR stop
Signal	No signal
Measurement point	Pin ③ of CN5501/4501 (VG) of PD-92/93 board External trigger : Pin ④ of CN5501/CN4501 (PANEL COM)
Measuring instrument	Oscilloscope
Adjustment page	E
Adjustment address	D3
Specified value	A = $3.52 \pm 0.07V$ (LCD TYPE S model) A = $2.54 \pm 0.07V$ (LCD TYPE C model)

Note1 : LCD TYPE S model : CCD-TRV23E/TRV45E/
TRV55E/TRV65E/TRV69E/
TRV75/TRV75PK/TRV715
LCD TYPE C model : CCD-TRV3E/TRV13E

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 55, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: 2, address: 7D, and set data: 00.
- 4) Select page: E, address: D3, change the data and set the voltage (A) between the pedestal (0 IRE) and 100 IRE to the specified value.
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 7) Select page: 0, address: 01, and set data: 00.

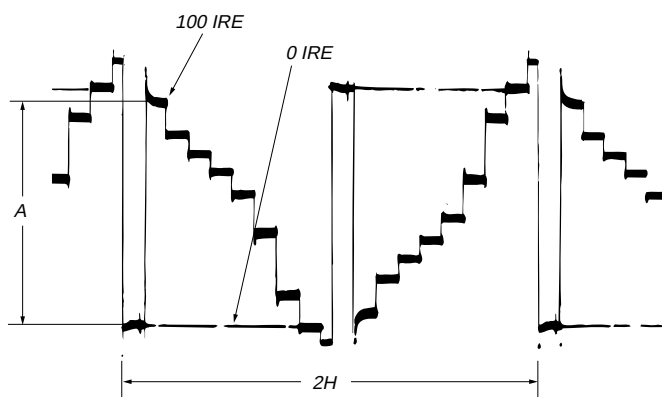


Fig. 5-1-21.

6. V-COM Level Adjustment (PD-92/93 board)

Set the common electrode drive signal level of LCD to the specified value.

Mode	VTR stop
Signal	No signal
Measurement point	Pin ④ of CN5501/CN4501 (PANEL COM) of PD-92/93 board
Measuring instrument	Oscilloscope
Adjustment page	E
Adjustment address	D5
Specified value	LCD TYPE S NTSC model : A = $6.50 \pm 0.05V$ 2.5" LCD TYPE S PAL model : A = $6.43 \pm 0.05V$ 3.5" LCD TYPE S PAL model : A = $6.70 \pm 0.05V$ LCD TYPE C PAL model : A = $5.10 \pm 0.05V$

Note1 : Perform “Bright Adjustment” and “Contrast Adjustment” before this adjustment.

Note2 : LCD TYPE S NTSC model : CCD-TRV75/TRV75PK/TRV715

LCD TYPE C PAL model : CCD-TRV3E/TRV13E

2.5" LCD TYPE S PAL model : CCD-TRV23E/TRV65E/TRV69E

3.5" LCD TYPE S PAL model : CCD-TRV45E/TRV55E

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 55, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: 2, address: 7D, and set data: 00.
- 4) Select page: E, address: D5, change the data and set the PANEL COM signal level (A) to the specified value.
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 7) Select page: 0, address: 01, and set data: 00.

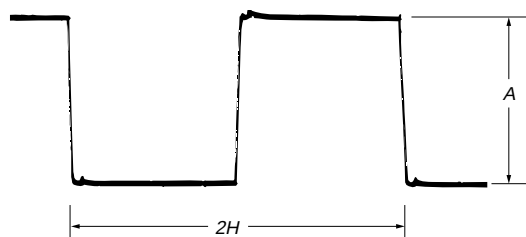


Fig. 5-1-22.

7. Color Adjustment (PD-92/93 board)

Set the color saturation to the standard value. If deviated, the color will be to dark or light.

Mode	VTR stop
Signal	No signal
Measurement point	Pin ③ of CN5501/4501 (VG) of PD-92/93 board External trigger : Pin ④ of CN5501/CN4501 (PANEL COM)
Measuring instrument	Oscilloscope
Adjustment page	E
Adjustment address	D0 (NTSC) D0, D9 (PAL)
Specified value	3" LCD TYPE S model : A = $0.05 \pm 0.05V$ 2.5" LCD TYPE S (61k) PAL model : A = $0.13 \pm 0.05V$ 2.5" LCD TYPE S (84k) PAL model : A = $0.12 \pm 0.05V$ 3.5" LCD TYPE S PAL model : A = $0.07 \pm 0.05V$ 2.5" LCD TYPE C PAL model : A = $0.05 \pm 0.05V$

Note1: 3" LCD TYPE S NTSC model :

CCD-TRV75/TRV75PK/TRV715

2.5" LCD TYPE S (61k) PAL model : CCD-TRV23E

2.5" LCD TYPE S (84k) PAL model : CCD-TRV65E69E

3.5" LCD TYPE S PAL model : CCD-TRV45E/TRV55E

2.5" LCD TYPE C PAL model : CCD-TRV3E/TRV13E

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 57, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: 2, address: 7D, and set data: 20.
- 4) Select page: E, address: D0, change the data and set the voltage (A) between the green and white to the specified value.
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Only for PAL model, select page: E, address: D9, and set the same data as page: E, address: D0, and press the PAUSE button of the adjusting remote commander.
- 7) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 8) Select page: 2, address: 7D, and set data: 00.
- 9) Select page: 0, address: 01, and set data: 00.

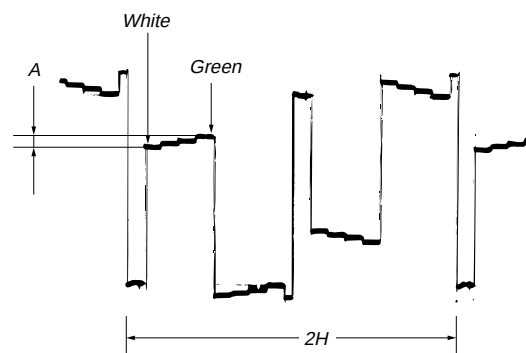


Fig. 5-1-23.

8. V-COM Adjustment (PD-92/93 board)

Set the DC bias of the common electrode drive signal of LCD to the specified value.

If deviated, the LCD display will move, producing flicker and conspicuous vertical lines.

Mode	VTR stop
Signal	No signal
Measurement point	Check on LCD display
Measuring instrument	
Adjustment page	E
Adjustment address	D7
Specified value	The brightness difference between the section (A) and section (B) is minimum.

Note1 : Perform “Bright Adjustment” and “Contrast Adjustment” before this adjustment.

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 51, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: 2, address: 7D, and set data: 87.
- 4) Select page: E, address: D7, change the data so that the brightness of the section A and that of the section B is equal.
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 7) Select page: 2, address: 7D, and set data: 00.
- 8) Select page: 0, address: 01, and set data: 00.

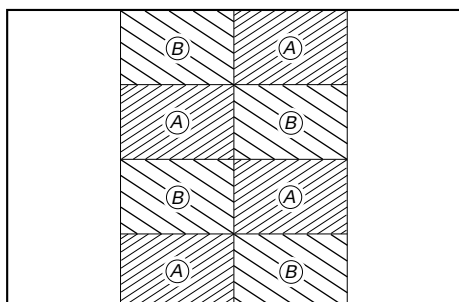


Fig. 5-1-24.

9. White Balance Adjustment (PD-92/93 board)

Correct the white balance.

If deviated, the LCD screen color cannot be reproduced.

Mode	VTR stop
Signal	No signal
Measurement point	Check on LCD display
Measuring instrument	
Adjustment page	E
Adjustment address	D1, D2
Specified value	The LCD screen should not be colored.

Note1: Check the white balance only when replacing the following parts. If necessary, adjust them.

1. LCD panel
2. Light induction plate
3. IC5502/4502

Note2 : LCD TYPE S NTSC model :

CCD-TRV75/TRV75PK/TRV715

LCD TYPE S PAL model : CCD-TRV23E/TRV45E/
TRV55E/TRV65E/TRV69E

LCD TYPE C model : CCD-TRV3E/TRV13E

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 51, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: 2, address: 7D, and set data: 03.
- 4) Select page: E, address: D1 and D2, and set the data to the initial value.

Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the data.

Address	Data		
	LCD TYPE S	LCD TYPE C	
	NTSC	PAL	PAL
D1	98	94	97
D2	88	81	8D

- 5) Check that the LCD screen is not colored. If colored, change the data of page: E, address: D1 and D2 so that the LCD screen is not colored.

Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the data.

- 6) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 7) Select page: 2, address: 7D, and set data: 00.
- 8) Select page: 0, address: 01, and set data: 00.

5-2. MECHANICAL SECTION ADJUSTMENT

Mechanism Parts Adjustments

For details on the adjustments and checks of mechanical section and replacements of mechanism parts, refer to the separate volume-“8 mm Video Mechanism Adjustment Manual VII **[B Mechanism]**”.

2-1. OPERATING WITHOUT A CASSETTE

- 1) Refer to “Section 2 DISASSEMBLY” and supply the power with the cabinet removed. (So that the mechanical deck can be operated.)
- 2) Connect the adjusting remote commander to the LANC terminal.
- 3) Turn on the HOLD switch of the adjusting remote commander.
- 4) Close the cassette compartment without loading a cassette and complete loading.
- 5) Select page: 0, address: 01, and set data: 01.
- 6) Select page: F, address: 2A, and set data: 01, and press the PAUSE button of the adjusting remote commander.
- 7) Select page: D, address: 10, and set data: 10, and press the PAUSE button of the adjusting remote commander.
- 8) Disconnect the power supply of the unit.
By carrying out the above procedure, the unit can be operated without loading a cassette.
Be sure to carry out “Processing after Operations” after checking the operations.
Set the data of page: D, address: 10 to the following if the sensor ineffective mode, forced PLAYER (VTR) power supply ON mode or forced camera power supply ON mode are to be used together.

Forced VTR power supply ON mode 12

Forced camera power supply ON mode 11

[Processing after Operations]

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: F, address: 2A, and set data: 00, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: D, address: 10, and set data: 00, and press the PAUSE button of the adjusting remote commander.
- 4) Select page: 0, address: 01, and set data: 00.
- 5) Disconnect the power supply of the unit.

2-2. TAPE PATH ADJUSTMENT

1. Preparations for adjustments

- 1) Clean the tape path face (tape guide, drum, capstan shaft, pinch roller).
- 2) Connect the adjusting remote commander to the LANC terminal.
- 3) Turn on the HOLD switch of the adjusting remote commander.
- 4) Select page: 0, address: 01, and set data: 01.
- 5) Select page: F, address: 2A, and set data: 04 and press the PAUSE button of the adjusting remote commander.
(Be sure to perform “Processing after operations” after completing adjustments.

- 6) Connect the oscilloscope.

Channel 1: Pin ⑥ of CN910 of VC-195 board

External trigger: Pin ⑪ of CN910 of VC-195 board

(Connect the oscilloscope via the CPC-7 jig)
(J-6082-382-A).

- 7) Playback the alignment tape for tracking.

WR5-1NP: For NTSC model: CCD-TRV75/TRV75PK/
TRV715

WR5-1CP: For PAL model: CCD-TRV3E/TRV13E/
TRV23E/TRV45E/TRV55E/
TRV65E/TRV69E

- 8) Check that the RF waveform of the oscilloscope is flat at both the entrance and the exit.

If not flat, perform necessary adjustment according to the separate “8 mm Video Mechanism Adjustment Manual VII (B Mechanism)”.

- 9) Perform “Processing after operations”, after completing adjustments.

CN910 of VC-195 board

[Processing after operations]

Pin No.	Signal Name	Pin No.	Signal Name
1	LANC SIG	9	RF AGC OUT
2	XCPC IN	10	REC RF
3	IR VIDEO	11	RF SWP
4	AFC F0	12	CAP FG
5	BPF MONI	13	EVF BL
6	PB RF	14	EVF BL 4.75V
7	RF AGC IN	15	VCO
8	REG GND	16	EVF VG

- 1) Connect the adjusting remote commander, and turn on the HOLD switch.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: F, address: 2A, and set data: 00.
- 4) Press the PAUSE buttonA of the adjusting remote commander.
- 5) Select page: 0, address: 01, and set data: 00.
- 6) Remove the power supply from the unit.

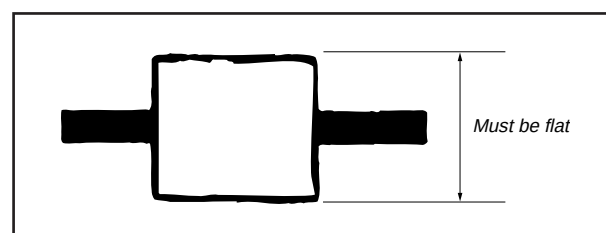


Fig. 5-2-1.

5-3. VIDEO SECTION ADJUSTMENTS

When performing adjustments, refer to the layout diagrams for adjustment related parts beginning from page 5-60.

3-1. PREPARATIONS BEFORE ADJUSTMENT

The following adjusting instruments are used for adjusting the video section.

3-1-1. Equipments to be Used

- 1) TV monitor
- 2) Oscilloscope: 2 phenomena, band 30 MHz or wider, with delay mode. (Use a 10:1 probe unless specified otherwise.)
- 3) Frequency counter
- 4) Pattern generator with video output terminal
- 5) Digital voltmeter
- 6) Audio generator
- 7) Audio level meter
- 8) Audio distortion meter
- 9) Audio attenuator
- 10) Regulated power supply
- 11) Alignment tape

[For NTSC model]

- For tracking adjustment (WR5-1NP)
Part Code: 8-967-995-02
- For video frequency characteristics adjustment (WR5-7NE) Part Code: 8-967-995-13
- For checking Standard 8 mode operations
For LP (WR5-4NL)
Part Code: 8-967-995-51
For SP (WR5-5NSP)
Part Code: 8-967-995-42

Note: The following alignment tapes can also be used.
WR5-4NSP (8-967-995-41)

- For checking Hi8 mode operations
For SP (WR5-8NSE)
Part Code: 8-967-995-43
For LP (WR5-8NLE)
Part Code: 8-967-995-52
- For checking AFM stereo operations (WR5-9NS)
Part Code: 8-967-995-23
For checking BPF adjustment (WR5-11NS)
Part Code: 8-967-995-71

[For PAL model]

- For tracking adjustment (WR5-1CP)
Part Code: 8-967-995-07
- For video frequency characteristics adjustment (WR5-7NE) Part Code: 8-967-995-18
- For checking Standard 8 mode operations
For LP (WR5-4CL)
Part Code: 8-967-995-56
For SP (WR5-5CSP)
Part Code: 8-967-995-47
- For checking Hi8 mode operations
For SP (WR5-8CSE)
Part Code: 8-967-995-48
For LP (WR5-8CLE)
Part Code: 8-967-995-57

Note: The following alignment tapes can also be used.

- 1) WR5-3CL (8-967-995-36)
- 2) WR5-4CSP (8-967-995-46)

- For checking AFM stereo operations (WR5-9CS)
Part Code: 8-967-995-28
For checking BPF adjustment (WR5-11CS)
Part Code: 8-967-995-76

- 12) Remote commander for adjustment (J-6082-053-B)

- 13) CPC-7 jig Part Code: J-6082-382-A

Note : Connect the adjusting remote commander to the LANC jack, and set the HOLD switch to the "ADJ" side, or press the battery switch of the battery terminal using adhesive tape, etc.

- 14) Power code Part Code: J-6082-223-A
- 15) AFM DEV jig (J-6082-312-A)
- 16) IR Receiving jig (J-6082-383-A)
- 17) Extension cable (48P, 0.8mm) (J-6082-188-A)

3-1-2. Precautions on Adjusting

- 1) The adjustments of this unit are performed in the VTR mode or camera mode.
To set to the VTR mode, set the power switch to “VTR” (or “PLAYER”) or set the “Forced VTR Power ON mode” using the adjusting remote commander (Note 1).
To set to the Camera mode, set the power switch to “CAMERA” or set the “Forced Camera Power ON mode” using the adjusting remote commander (Note 2).
After completing adjustments, be sure to exit the “Forced VTR Power ON Mode” or “Forced Camera Power ON Mode”. (Note 3)
- 2) By setting the “Forced VTR Power ON mode” or “Forced Camera Power ON mode”, the video section can be operate even if even if the front panel block (MA-312/331 board, power switch, microphone unit) has been removed. When removing the front panel block disconnect the following connector.
 1. VC-195 board CN903 (23P 0.5mm)
- 3) The lens block (CD-197/198 board) need not be connected except during battery end adjustment. To remove, disconnect the following connectors.
 1. VC-195 board CN501 (16P, 0.5mm)
 2. VC-195 board CN551 (23P, 0.5mm)
- 4) The intelligent accessory shoe (Intelligent accessory shoe model) need not be assembled. If removing it, disconnect the following connector.
 1. VC-195 board CN909 (10P, 0.5mm)
- 5) Cabinet (R) (Camera function switch (CF-50/51board), LCD block, viewfinder) need not be connected. But removing the cabinet (R) (removing the VC-195 board CN911) means removing the lithium 3V power supply (CF-50/51 board) , data such as date, time, user-set menus will be lost. After completing adjustments, reset these data. If the cabinet (R) has been removed, the self-diagnosis data, data on history of use (total drum rotation time etc.) will be lost. Before removing, note down the self-diagnosis data and data on the history use. (Refer to the “Service Mode” for the data on the history use.) To remove the cabinet (R), disconnect the following connectors.
 1. VC-195 board CN911 (50P, 0.5mm)
 2. DD-105 board CN933 (11P, 1.0mm)

Note 1: Setting the “Forced VTR Power ON” mode (VTR mode)

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 10, set data: 02, and press the PAUSE button of the adjusting remote commander.

The above procedure will enable the VTR power to be turned on with the front panel block removed.

After completing adjustments, be sure to exit the “Forced VTR Power ON mode”.

Note 2: Setting the “Forced Camera Power ON” mode (Camera mode)

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 10, set data: 01, and press the PAUSE button of the adjusting remote commander.

The above procedure will enable the camera power to be turned on with the front panel block removed.

After completing adjustments, be sure to exit the “Forced Camera Power ON mode”.

Note 3: Exiting the “Forced Power ON” mode

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: 0, address: 01, and set data: 00.

3-1-3. Adjusting Connectors

Some of the adjusting points of the video section are concentrated at VC-195 board CN910. Connect the measuring instruments via the CPC-7 jig (J-6082-382-A). The following table lists the pin numbers and signal names of CN910.

Pin No.	Signal Name	Pin No.	Signal Name
1	LANC SIG	9	RF AGC OUT
2	XCPC IN	10	REC RF
3	IR VIDEO	11	RF SWP
4	AFC F0	12	CAP FG
5	BPF MONI	13	EVF BL
6	PB RF	14	EVF BL 4.75V
7	RF AGC IN	15	VCO
8	REG GND	16	EVF VG

Table 5-3-1.

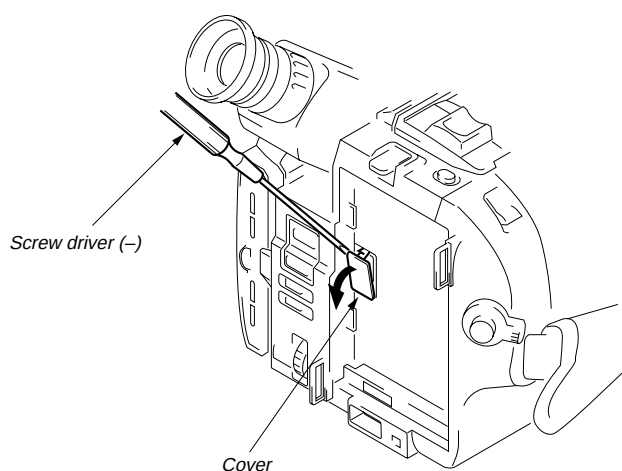


Fig. 5-3-1.

3-1-4. Connecting the Equipments

Connect the measuring instruments as shown in Fig. 5-3-2 and perform the adjustments.

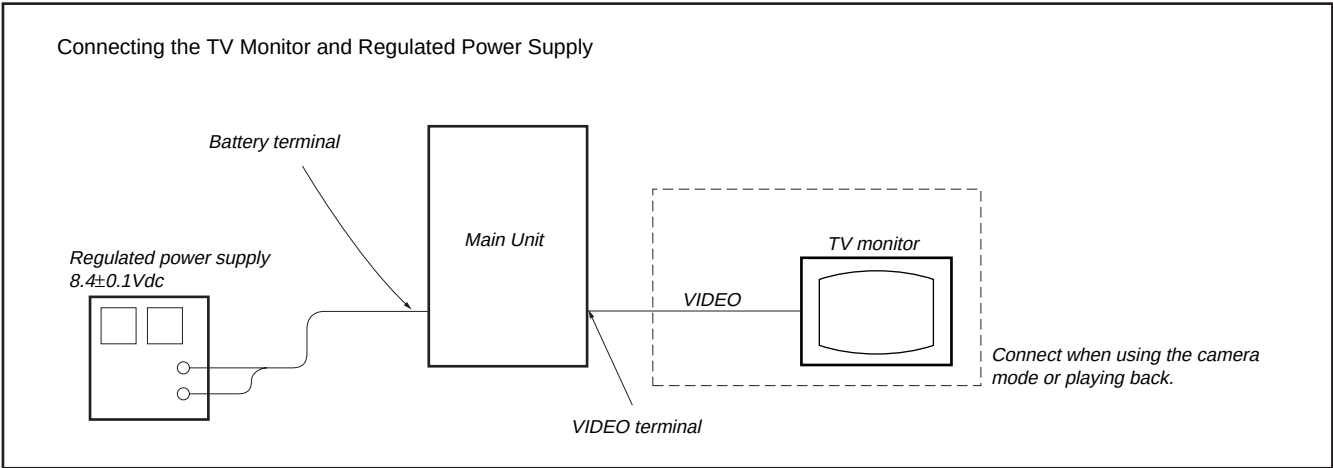


Fig. 5-3-2.

3-1-5. Alignment Tape

The following table lists alignment tapes which are available. Use the tape specified in the signal column for each adjustment. If the type of tape to be used for checking operations is not specified, use whichever type.

Name	Record-ing mode	Tape type	Tape speed	Usage
Tracking WR5-1NP (NTSC) WR5-1CP (PAL)	Standard 8 mm	MP	SP	Tape path adjustment Switching position adjustment
Video frequency characteristics WR5-7NE (NTSC) WR5-7CE (PAL)	Hi8	ME	SP (NTSC) LP (PAL)	Frequency characteristics adjustment
Operation check (SP mode) WR5-5NSP (NTSC) WR5-5CSP (PAL)	Standard 8 mm	MP	SP	Checking operations
Operation check (SP mode) WR5-8NSE (NTSC) WR5-8CSE (PAL)	Hi8	ME	SP	
Operation check (LP mode) WR5-4NL (NTSC) WR5-4CL (PAL)	Standard 8 mm	MP	LP	
Operation check (LP mode) WR5-8NLE (NTSC) WR5-8CLE (PAL)	Hi8	ME	LP	
AFM stereo Operation check WR5-9NS (NTSC) WR5-9CS (PAL)	Standard 8 mm	MP	SP	AFM stereo Checking operations
BPF adjustment WR5-11NS (NTSC) WR5-11CS (PAL)	Standard 8 mm	MP	SP	BPF adjustment

Tape type
MP Particle type metal tape
ME Evaporated type metal tape

Table 5-3-2.

Fig. 5-3-3. shows the 75% color bar signals recorded on the alignment tape.

Note: Measure using the VIDEO terminal (Terminated at 75 Ω).

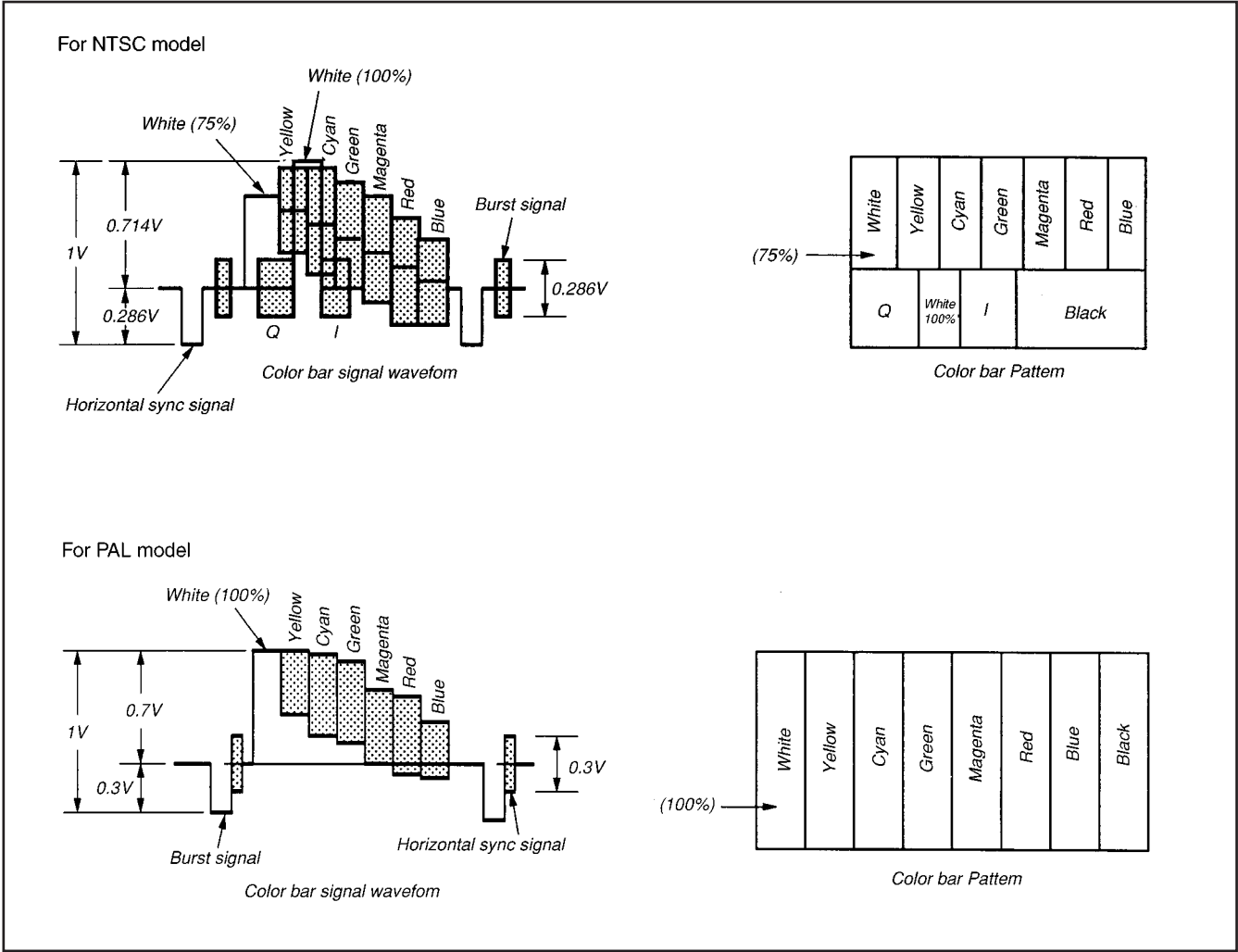


Fig. 5-3-3. Color Bar Signals of the Alignment Tape

3-1-6. Input/Output Level and Impedance

Video input/output

Phono jack, 1 Vp-p, 75Ω,
unbalanced, sync negative

S video input/output (Hi8 model)

4-pin mini DIN

Luminance signal:

1Vp-p, 75Ω, unbalanced, sync negative

Chrominance signal:

0.286Vp-p, 75Ω, unbalanced (NTSC)

0.3Vp-p, 75Ω, unbalanced (PAL)

Audio input/output

Phono jack,

Input: -7.5 dBs, input impedance more
than 47 kΩ

Output: -7.5 dBs, (at load impedance 47 kΩ),
impedance less than 2.2 kΩ

3-1-7. Recording Mode (Standard 8/Hi8) switching (Hi8 model)

The record mode (Standard 8/Hi8) of this unit switches as shown in the following table. The playback mode (Standard 8/Hi8) switches automatically according to the recording mode of the tape played back.

Tape Used	Recording Mode
ME	Hi8
Hi8 MP	
MP	Standard 8

3-1-8. Service Mode

Additional note on adjustment

Note: After the completion of the all adjustments, cancel the service mode by either of the following ways.

- 1) Unplug the main power supply and remove the lithium battery.
(In this case, date and time and menu setting have been set by users are canceled. Perform resetting.)
- 2) After data on page: D and F is restored, select page: 0, address: 01, and return the data to 00. And when data on page: 3 is changed, return the data to the original condition.

1. Test mode setting

Set/release each test mode. Select page: 0, address: 01, and set data: 01 before setting the data of page D and F.

Page F	Address 2A
--------	------------

Data	Function
00	Normal
01	Test mode Various emergency prohibitions and releases Drum emergency, capstan emergency, loading motor emergency, reel emergency, tape top and end, DEW detection

Page D	Address 10
--------	------------

Data	Function
00	Normal
01	Camera power ON
02	VTR power ON
03	Camera+VTR power ON

- * For page D and F, the data set will be recorded in the nonvolatile memory by pressing the PAUSE button on the adjusting remote commander. Take note that, in this case, the test mode will not be released even if the main power has been turned off (8.4 Vdc).
- * Be sure to return this address data to 00 after completing adjustments/repairs and press the PAUSE button of the adjusting remote commander. And select page: 0, address: 01, and set data: 00.

2. Emergency Memory Address

Page F	Address 10 to 1B
--------	------------------

Address	Contents
10	1st EMG code
12	Upper: MSW code when the mechanism starts shifting the 1st time Lower: MSW code when the 1st emergency occurs
13	Lower: Target MSW code of the 1st emergency occurs
14	2nd EMG code
16	Upper: MSW code when the mechanism starts shifting the 2nd time Lower: MSW code when the 2nd emergency occurs
17	Lower: Target MSW code of the 2nd emergency occurs
18	Last EMG code
1A	Upper: MSW code when the mechanism starts shifting the last time Lower: MSW code when the last emergency occurs
1B	Lower: Target MSW code of the last emergency occurs

When there are no emergency, data 00 will be written in the above addresses (10 to 1B). When the first emergency occurs, the data corresponding to the emergency will be written in the address (10 to 13) for this first emergency. In the same way, when the second emergency occurs, the data corresponding to the emergency will be written in the address (14 to 17) for this second emergency. The data corresponding to the emergency occurring the last will be written in the address (18 to 1B) for this last emergency. Therefore the data of addresses 18 to 1B are renewed each time an emergency occurs.

Note 1: Be sure to rewrite the data of addresses 10 to 1B to 00 after repairs/adjustments.

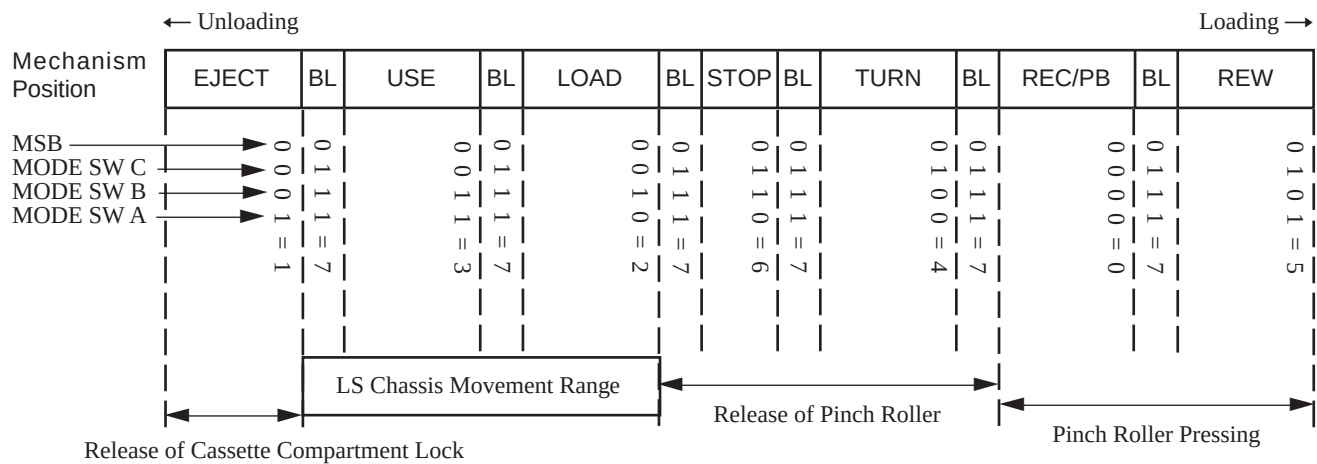
Note 2: When rewriting the data, be sure to press the PAUSE button of the remote commander after setting the data.

2-1. EMG CODE (Emergency Code)

The codes shown in the following table which correspond to errors that occur are recorded in addresses 10, 14, and 18.

Code	Type of Emergency
00	No error
10	Loading motor time-out during load
11	Loading motor time-out during unload
20	T reel emergency (reel slack) during unloading
21	S reel emergency (reel slack) during unloading
22	T reel emergency
23	S reel emergency
30	FG emergency at the start up of the capstan
31	FG emergency during the normal rotation of the capstan
40	FG emergency at the start up of the drum
41	PG emergency at the start up of the drum
42	FG emergency during the normal rotation of the drum
43	PG emergency during the normal rotation of the drum
44	Phase emergency during the normal rotation of the drum

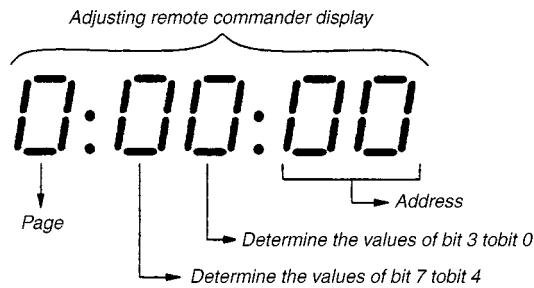
- The lower parts of the data of addresses 12, 16 and 1A represent the MSW codes (mode switch, mechanism position) when errors occurs.
- The upper parts of the data of addresses 12, 16 and 1A represent, when the mechanism position is to be moved, the MSW codes at the start of movement (when moving the loading motor).
- The lower parts of the data of addresses 13, 17 and 1B represent the MSW codes of the desired movement when the mechanism position is to be moved.



Mechanism Position	MSW Code	Contents
EJECT	1	Position at which the cassette compartment lock is released. The mechanism will not move any further in the unloading direction.
BL	7	BLANC code. Between two codes. The mechanism will not be stopped by this code while it is operating.
USE	3	EJECT completion position. When the cassette is ejected, the mechanism will stop at this position.
LOAD	2	Code during loading/unloading. Code that is used while the LS chassis is moving.
STOP	6	Normal stop position. The pinch roller separates, the tension regulator returns, and the brakes of both reels turn on.
TURN	4	Position at which is used when the pendulum gear swings from S to T or from T to S.
RECP/PB	0	PB, REC, CUE, REV, PAUSE, FF positions. The pinch roller is pressed and tension regulator is on.
REW	5	REW position. REW are carried at this position. The mechanism will not move any further in the loading direction.

3. Bit value discrimination

Bit values must be discriminated using the display data of the adjusting remote commander for the following items. Use the table below to discriminate if the bit value is “1” or “0”.



Remote controller display	Bit value			
	bit 3 or bit 7	bit 2 or bit 6	bit 1 or bit 5	bit 0 or bit 4
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
Ⓐ→ 8	1	0	0	0
9	1	0	0	1
A (<i>P</i>)	1	0	1	0
B (<i>b</i>)	1	0	1	1
C (<i>c</i>)	1	1	0	0
D (<i>d</i>)	1	1	0	1
Ⓑ→ E (<i>E</i>)	1	1	1	0
F (<i>F</i>)	1	1	1	1

(Example) If the remote commander display data is “8E”, bit values from bit7 to bit4 can be discriminated from column Ⓐ, and those from bit3 to bit0 from column Ⓑ.

4. Switch check (1)

Page 3		Address 43	
Bit	Function	When bit value=1	When bit value=0
0	VTR MODE SW	OFF	ON
1	CAM MODE SW	OFF	ON
2	START/STOP SW	OFF	ON
3	EJECT SW	OFF	ON
4	CC DOWN SW	OFF	ON
5			
6			
7			

Using method:
1) Select page: 3, address: 43.
2) By discriminating the bit value of display data, the state of the switches can be discriminated.

5. Switch check (2)

Page 3	Address 60 to 66
--------	------------------

Using method:

- 1) Select page: 3, address: 60 to 66.
- 2) By discriminating the display data, the pressed key can be discriminated.

Address	Data							
	00 to 0D	0E to 29	2A to 46	47 to 68	69 to 90	91 to BE	BF to EA	EB to FF
60 (AD0: IC604 ㉓)	LASER LINK (FK-8500 S008)	STOP (FK-8500 S001)	FF (FK-8500 S003)	REC (FK-8500 S005, 007)	EDIT SEARCH (+) (FK8500 S009)	EDIT SEARCH (-) (FK8500 S010)		No key input
61 (AD1: IC604 ㉔)	PHOTO REC (SS-8500 S004)	PAUSE (FK-8500 S002)	REW (FK-8500 S004)	PLAY (FK-8500 S006)				No key input
62 (AD2: IC604 ㉕)	DIGITAL EFFECT (CF-50/51 S001)	PICTURE EFFECT (CF-50/51 S006)	MENU (CF-50/51 S010)	EXECUTE (CF-50/51 S015)	TIME (CF-50/51 S021)	5sec REC (CF-50/51 S024)	PUSHING REC (CF-50/51 S024)	NORMAL REC (CF-50/51 S024)
64 (AD4: IC604 ㉗)			EXPOSURE (CF-50/51 S012)	BACK LIGHT (CF-50/51 S017)	FADER (CF-51 S027 or MF-8500 S002)	FOCUS INFINITY (MF/MR-8500 S001)	FOCUS AUTO (MF/MR-8500 S001)	FOCUS MANUAL (MF/MR-8500 S001)
65 (AD5: IC604 ㉘)	DATE (CF-50/51 S003)	COUNTER RESET (CF-50/51 S008)	END SEARCH (CF-50/51 S013)	TITLE (CF-50/51 S018)	DISPLAY (CF-50/51 S022)			No key input
66 (AD6: IC604 ㉙)	PROGRAM AE (CF-50/51 S004)	BRIGHT(+) (PD-92 S5801 PD-93 S4801)	BRIGHT(-) (PD-92 S5802 PD-93 S4802)	VOLUME(+) (PD-92 S5803 PD-93 S4803)	VOLUME(-) (PD-92 S5804 PD-93 S4804)	PANEL REVERSE (FP-642)	PANEL CLOSE (FP-642)	PANEL NORMAL (FP-642)

6. Headphone jack check

Page 3	Address 45
--------	------------

Bit	Function	When bit value=1	When bit value=0
1	Headphone jack	Headphone jack is used	

Using method:

- 1) Select page: 3, address: 45.
- 2) By discriminating the bit value of display data, the state of the headphone jack can be discriminated.

7. Input/output selection check

Page 3	Address 49
--------	------------

Bit	Function	When bit value=1	When bit value=0
1			
2			
3			
4	MIC jack		MIC jack is used
5	AUDIO terminal	Monaural	Stereo
6	VIDEO terminal	VIDEO terminal is used	
7	S VIDEO terminal		S VIDEO terminal is used

Using method:

- 1) Select page: 3, address: 49.
- 2) By discriminating the bit value of display data, the state of the input/output selection can be discriminated.

8. LED, LCD (display window) check

Page 3	Address 05	Bit5
--------	------------	------

Using method:

- 1) Select page: 3, address: 05, and set the bit value of Bit5 to "1".
- 2) Check that all LED are lit and all segments of LCD (display window) are lit.
- 3) Select page: 3, address: 05, and set the bit value of Bit5 to "0".

9. Record of Use Check

Page 3	Address A2 to AA
--------	------------------

Address	Function		Remarks
A2	Drum rotation counted time (BCD code)	Hour (H)	1000th place digit and 100th place digit of counted time (decimal digit)
A3		Hour (L)	10th place digit and 1st place digit of counted time (decimal digit)
A4		Minute	
A5	User initial power on date (BCD code)	Year	After setting the clock, set the date of power on next
A6		Month	
A7		Day	
A8	Final condensation occurrence date (BCD code)	Year	
A9		Month	
AA		Day	

Using method:

- 1) The record of use data is displayed at page 3, addresses: A2 to AA.

Note: This data will be erased when the coin lithium battery is removed (reset).

3-2. SYSTEM CONTROL SYSTEM ADJUSTMENT

1. Initialization of D, E, F Page Data

If the D, E, F page data is erased due to some reason, perform “1-2. INITIALIZATION OF D, E, F PAGE DATA”, of “5-1. CAMERA SECTION ADJUSTMENT”.

2. Battery End Adjustment (VC-195 board)

Set the battery end voltage.

If the voltage is incorrect, the life of the battery will shorten.

The image at the battery end will also be rough.

Mode	Camera recording
Subject	Arbitrary
Measurement Point	LCD display of the adjusting remote commander
Measuring Instrument	commander
Adjustment Page	D
Adjustment Address	30 to 34

Note 1: The lens block and cabinet (R) must be connected.

Switch setting

- 1) AUTO FOCUS OFF
- 2) LCD screen Closed
- 3) NIGHT SHOT OFF
(NIGHT SHOT model)

Connection:

- 1) Connect the regulated power supply and the digital voltmeter to the battery terminal as shown in Fig. 5-3-4.

Adjusting method:

- 1) Adjust the output voltage of the regulated power supply so that the digital voltmeter display is $6.1 \pm 0.1 \text{ Vdc}$.
- 2) Turn off the power supply.
- 3) Turn on the HOLD switch of the adjusting remote commander.
- 4) Turn on the power supply.
- 5) Load a cassette, and set to the camera recording mode.
- 6) Select page: 0, address: 01, and set data: 01.
- 7) Decrease the output voltage of the regulated power supply so that the digital voltmeter display is $5.30 \pm 0.01 \text{ Vdc}$.
- 8) Select page: 3, address: 5D, read the data, and this data is named Dref.
- 9) Select page: D, address: 30, set data: Dref, and then press the PAUSE button of the adjusting remote commander.
- 10) Convert Dref to decimal notation, and obtain Dref'. (Refer to Table 5-1-2. “Hexadecimal-decimal conversion table”)
- 11) Calculate D_{31}' , D_{32}' , D_{33}' and D_{34}' using following equations (decimal calculation), convert it to a hexadecimal number, and input each adjustment address.

$$\text{Address: 31} \quad D_{31}' = \text{Dref}' + 5$$

$$\text{Address: 32} \quad D_{32}' = \text{Dref}' + 32$$

$$\text{Address: 33} \quad D_{33}' = \text{Dref}' + 53$$

$$\text{Address: 34} \quad D_{34}' = \text{Dref}' + 64$$

Note 3: After setting each data, be sure to press the PAUSE button.

- 12) Select page: 0, address: 01, and set data: 00.

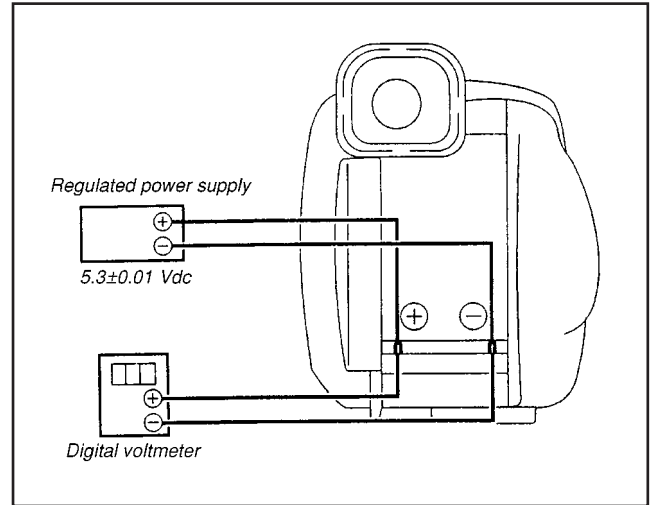


Fig. 5-3-4.

3-3. SERVO SYSTEM ADJUSTMENTS

1. CAP FG Offset Adjustment (VC-195 board)

Improve the capstan servo characteristic. If it is not correct, jitters will increase.

Mode	Camera recording (SP mode)
Subject	Arbitrary
Measurement Point	Pin ⑫ of CN910 (CAP FG)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	69
Specified value	Duty = 50±1%

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 2, address: 01, and set data: 81, and press the PAUSE button of the adjustment remote commander. (to start up automatic CAP FG offset adjustment.)
- 3) Select page: 2, address: 02, and check that the data is "01".
- 4) Check that Duty of CAP FG signal satisfies the specified value.
If not, select page: 2, address: 01, set data: 00, and press the PAUSE button, and then, repeat steps 2) to 4).
- 5) Select page: 2, address: 01, and set data: 00, and press the PAUSE button of the adjustment remote commander.
- 6) Select page: 0, address: 01, and set data: 00.

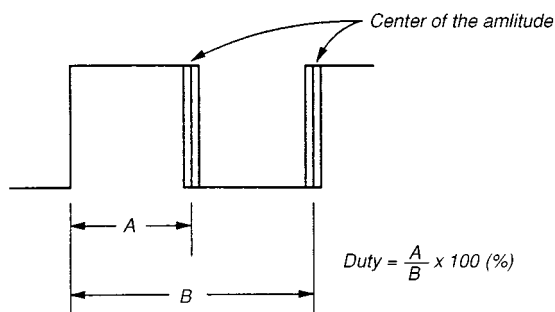


Fig. 5-3-5.

2. Switching Position Adjustment (VC-195 Board)

If deviated in this case causes switching noise or jitter on the played back screen.

Mode	Playback
Signal	Alignment tape: For tracking adjustment (WR5-1NP (NTSC)) (WR5-1CP (PAL))
Measurement Point	CH1: Pin ⑪ of CN910 (RF SWP) CH2: Pin ⑥ of CN910 (PB RF)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	7C, 7D
Specified Value	t1 = 0±10μsec

Note 1: NTSC model : CCD-TRV75/TRV75PK/TRV715
PAL model : CCD-TRV3E/TRV13E/TRV23E/
TRV45E/TRV55E/TRV65E/TRV69E

Adjusting Method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: F, address: 2A, and set data: 20, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: F, address: 7C, change the data and minimize "t1", and then press the PAUSE button of the adjustment remote commander. (Coarse adjustment)
- 4) Select page: F, address: 7D, change the data and adjust so that the switching position (t1) becomes the specified value. (Fine adjustment)
- 5) Press the PAUSE button of the adjustment remote commander.
- 6) Select page: F, address: 2A, and set data: 00, and press the PAUSE button of the adjustment remote commander.
- 7) Select page: 0, address: 01, and set data: 00.

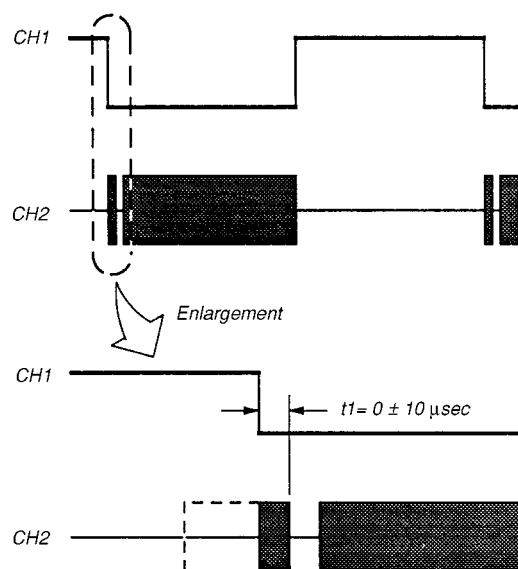


Fig. 5-3-6.

3. NTSC LP Mode Switching Position Adjustment (VC-195 Board) (CCD-TRV75/TRV75PK/TRV715)

If deviated in this case causes switching noise or jitter on the LP mode played back screen.

Mode	Playback
Signal	Alignment tape: For tracking adjustment (WR5-1NP (NTSC))
Measurement Point	CH1: Pin ⑪ of CN910 (RF SWP) CH2: Pin ⑥ of CN910 (PB RF)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	7E, 7F
Specified Value	$t_1 = 0 \pm 10 \mu\text{sec}$

Adjusting Method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: F, address: 2A, set data: 60, and then press the PAUSE button of the adjustment remote commander.
- 3) Select page: F, address: 7E, change the data and minimize "t1", and then press the PAUSE button of the adjustment remote commander. (Coarse adjustment)
- 4) Select page: F, address: 7F, change the data and adjust so that the switching position (t1) becomes the specified value. (Fine adjustment)
- 5) Select page: F, address: 2A, set data: 00, and then press the PAUSE button of the adjustment remote commander.
- 6) Press the PAUSE button of the adjustment remote commander.
- 7) Select page: 0, address: 01, and set data: 00.

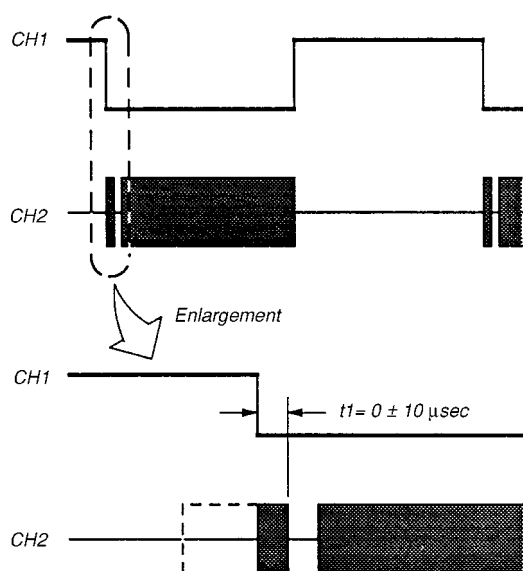


Fig. 5-3-7.

3-4. VIDEO SYSTEM ADJUSTMENTS

Video system adjustments must be performed in the following order.

[Adjusting Order]

1. 28MHz origin oscillation adjustment
2. AFC f0 adjustment
3. Filter f0 adjustment
4. Y OUT level adjustment
5. C OUT level adjustment
6. RP filter f0 adjustment
7. Hi8 REC Y current adjustment
8. Standard REC Y current adjustment
9. Hi8 REC L level adjustment
10. Standard8 REC L level adjustment
11. REC C current adjustment

1. 28 MHz Origin Oscillation Adjustment (VC-195 board)

Set the frequency of the clock for synchronization.

If deviated, the synchronization will be disrupted and the color will become inconsistent.

Mode	VTR stop
Signal	No signal
Measurement Point	Pin ⑥⑥ of IC202 or pin ⑫⑫ of IC501
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	2C
Specified Value	Pin ⑥⑥ of IC202 : f=3579545±17Hz (NTSC) f=4433618.75±17Hz (PAL) Pin ⑫⑫ of IC501 : f=14318181±68Hz (NTSC) f=14187500±55Hz (PAL)

Note 1: NTSC model : CCD-TRV75/TRV75PK/TRV715
PAL model : CCD-TRV3E/TRV13E/TRV23E/
TRV45E/TRV55E/TRV65E/TRV69E

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 41, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: 2, address: 61, and set data: 30.
- 4) Select page: F, address: 2C, change the data and set the clock frequency(f) to the specified value.
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 2, address: 61, and set data: 10.
- 7) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 6) Select page: 0, address: 01, and set data: 00.

2. AFC f0 Adjustment (VC-195 board)

Adjust the pull-in range of the A/D converted clock generator during playback.

Mode	VTR stop
Signal	No signal
Measurement Point	Pin ④ of CN910 (AGC f0)
Measuring Instrument	Digital voltmeter
Adjustment Page	F
Adjustment Address	4A
Specified Value	$A = 2.10 \pm 0.05 \text{Vdc}$

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 4D, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: F, address: 4A, change the data and set the DC voltage (A) to the specified value.
- 4) Press the PAUSE button of the adjusting remote commander.
- 5) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 6) Select page: 0, address: 01, and set data: 00.

3. Filter f0 Adjustment (VC-195 board)

Minimize the chroma signal residual components during composite video signal input.

Mode	VTR stop
Signal	No signal
Measurement Point	Pin ③ of CN910 (IR VIDEO)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	4D
Specified Value	Minimum residual chroma signal components (A = Bellow 12mV)

Switch setting:

LASER LINK ON (Red LED is lit)

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 4F, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: F, address: 4D, change the data and minimize the residual chroma signal components (A).
- 4) Press the PAUSE button of the adjusting remote commander.
- 5) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 6) Select page: 0, address: 01, and set data: 00.

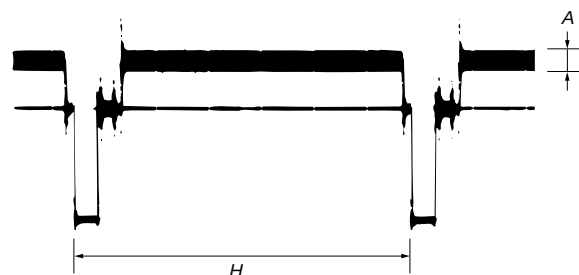


Fig. 5-3-8.

4. Y OUT Level Adjustment (VC-195 board)

Set the Y signal output level.

Mode	VTR stop
Signal	No signal
Measurement Point	Hi8 model : Y signal terminal of S VIDEO terminal (75Ω terminated) Standard 8 model : VIDEO terminal (75Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	49
Specified Value	A = 286±5mV (NTSC) A = 300±5mV (PAL)

Note 1: Insert the plug into the S video terminal (Hi8 model)

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 41, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: 2, address: 61, and set data: 30.
- 4) Select page: F, address: 49, change the data and set the SYNC level (A) to the specified value.
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 2, address: 61, and set data: 10.
- 7) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 8) Select page: 0, address: 01, and set data: 00.

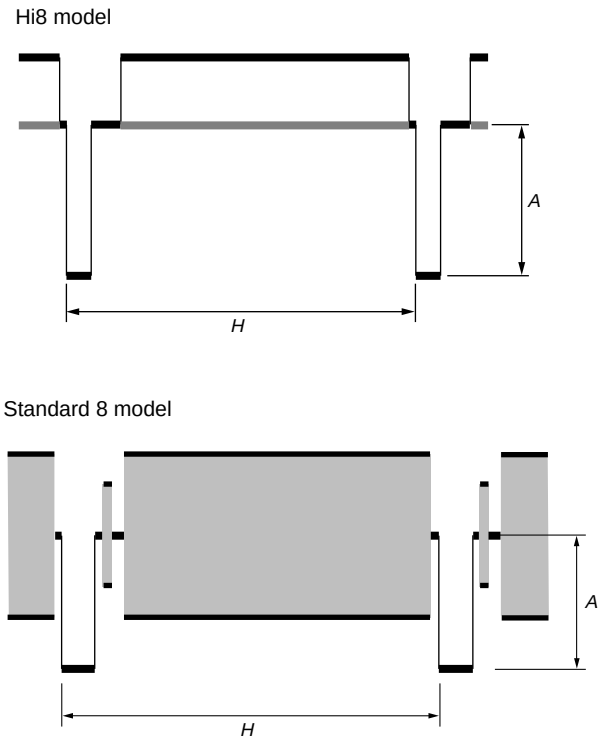


Fig. 5-3-9.

5. C OUT Level Adjustment (VC-195 board)

Set the chroma signal output level.

Mode	VTR stop
Signal	No signal
Measurement Point	Hi8 model : Chroma signal terminal of S VIDEO terminal (75Ω terminated) Standard 8 model : VIDEO terminal (75Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	4B
Specified Value	A = 286±5mV (NTSC) A = 300±5mV (PAL)

Note 1: Insert the plug into the S video terminal (Hi8 model)

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 41, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: 2, address: 61, and set data: 30.
- 4) Select page: F, address: 4B, change the data and set the burst level (A) to the specified value.
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 2, address: 61, and set data: 10.
- 7) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 8) Select page: 0, address: 01, and set data: 00.

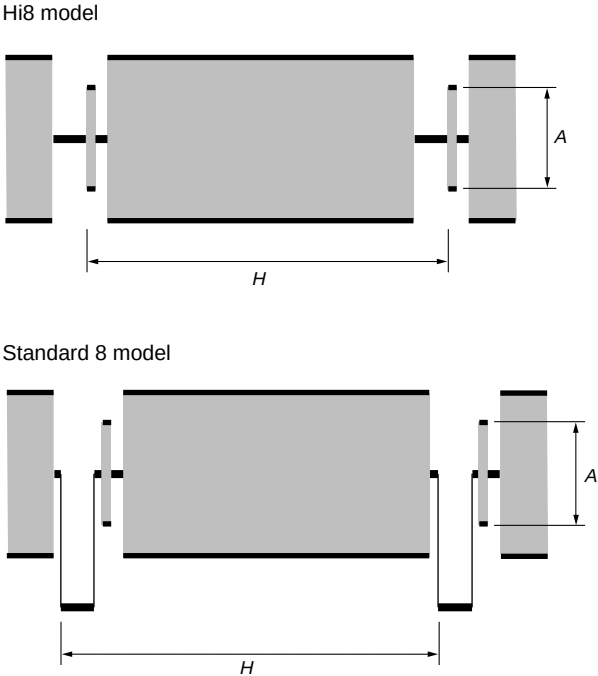


Fig. 5-3-10.

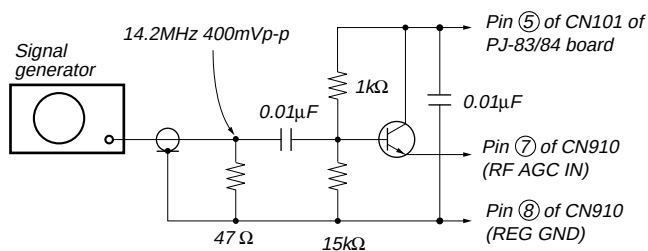
6. RP Filter f0 Adjustment (VC-195 board)

Adjust the LPF of the playback RF amplifier.

Mode	VTR stop
Signal	No signal
Measurement Point	Pin ⑨ of CN910 (RF AGC OUT)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	4E
Specified Value	A = Below 10mVp-p

Connection:

- 1) Input a 14.2MHz, 400mVp-p CW signal to Pin ⑦ of CN910 (RF AGC IN).



Transistor : General NPN transistor (2SC403. etc)

47 Ω resistor : 1-249-401-11

1k Ω resistor : 1-249-417-11

15k Ω resistor : 1-249-431-11

0.01μF capacitor : 1-101-004-00

Fig. 5-3-11.

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 35, and press the PAUSE button of the adjusting remote commander.
- 3) Only for Standard8 model, select page: D, address: 15, after memorizing the data, set the bit value of bit0 to "1". (Refer to "3. Bit value discrimination" of "3-1-8. Service mode").
- 4) Select page: F, address: 4E, change the data and minimize the 14.2 MHz signal level (A).
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: D, address: 15, and set the data memorized at step 3), and press the PAUSE button of the adjusting remote commander..
- 7) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 8) Select page: 0, address: 01, and set data: 00.

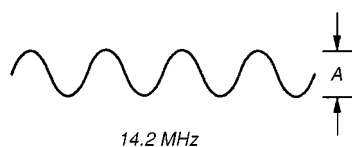


Fig. 5-3-12.

7. Hi8 REC Y Current Adjustment (VC-195 board) (CCD-TRV65E/TRV69E/TRV75/TRV75PK/TRV715)

Adjust the Y FM signal recording current.

Mode	VTR recording (SP mode)
Signal	No signal
Measurement Point	Pin ⑩ of CN910 (REC RF)
Measuring Instrument	Oscilloscope (20 MHz BW LIMIT: OFF)
Adjustment Page	F
Adjustment Address	53 to 5A
Specified Value	A = $160 \pm 5 \text{mV}$ (NTSC) A = $185 \pm 5 \text{mV}$ (PAL)

Note 1: NTSC model : CCD-TRV75/TRV75PK/TRV715
PAL model : CCD-TRV65E/TRV69E

Preparations only for the model without REC switch:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 14, after memorizing the data, set the bit value of bit1 to "1". (Refer to "3. Bit value discrimination" of "3-1-8. Service mode").
- 3) Select page: D, address: 15, after memorizing the data, set the bit value of bit7 to "0".
- 4) Set to recording mode. (Use the wireless remote commander of 8mm VCR, or connect Pin ⑥ of CN935 of DD-95 board and GND with 4.7k Ω resistor for a second.)
4.7k Ω resistor : 1-249-425-11

Adjusting method:

- 1) Insert a tape, set to recording mode.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: F, address: 5C, after note down the data, set data: FF, and press the PAUSE button of the adjusting remote commander.
- 4) Select page: F, address: 65, after note down the data, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 5) Select page: 3, address: 01, set data: 41, and press the PAUSE button of the adjusting remote commander.
- 6) Select page: F, address: 54, change the data and set the Y signal level (A) to the specified value.
- 7) Press the PAUSE button of the adjusting remote commander.
- 8) Select page: F, address: 54, and read the data (D₅₄).
- 9) Calculate the adjustment data (hexadecimal) from the following equations (hexadecimal calculation), and input each adjustment address. (Refer to Table 5-1-2. Hexadecimal-Decimal conversion Table.)

NTSC model

Address: 53 D₅₃ = D₅₄
Address: 55 D₅₅ = D₅₄ + 10
Address: 56 D₅₆ = D₅₄ + 10

PAL model

Address: 53 D₅₃ = D₅₄
Address: 55 D₅₅ = D₅₄
Address: 56 D₅₆ = D₅₄

Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.

- 10) Write the following data in page: F, address: 57 to 5A.

Address	Data
57	A0 (NTSC), A1 (PAL)
58	80 (NTSC), 95 (PAL)
59	90 (NTSC), A1 (PAL)
5A	80 (NTSC), 95 (PAL)

Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.

- 11) Select page: F, address: 5C, set the data noted down at step 3), press the PAUSE button of the adjusting remote commander.
- 12) Select page: F, address: 65, set the data noted down at step 4), press the PAUSE button of the adjusting remote commander.
- 13) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 14) Select page: 0, address: 01, and set data: 00.

Processing after completed adjustment: only for the model without REC switch:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 14, and set the data memorized at step 2) of "Preparations only for the model without REC switch".
- 3) Press the PAUSE button of the adjusting remote commander.
- 4) Select page: D, address: 15, and set the data memorized at step 3) of "Preparations only for the model without REC switch".
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 0, address: 01, and set data: 00.

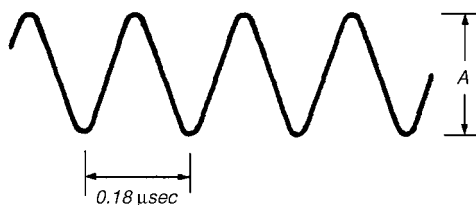


Fig. 5-3-13.

8. Standard8 REC Y Current Adjustment (VC-195 board) (CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E)

Adjust the Y FM signal recording current.

Mode	VTR recording (SP mode)
Signal	No signal
Measurement Point	Pin ⑩ of CN910 (REC RF)
Measuring Instrument	Oscilloscope (20 MHz BW LIMIT: OFF)
Adjustment Page	F
Adjustment Address	53 to 5A
Specified Value	A = 185±5mV

Preparations only for the model without REC switch:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 14, after memorizing the data, set the bit value of bit1 to "1". (Refer to "3. Bit value discrimination" of "3-1-8. Service mode").
- 3) Select page: D, address: 15, after memorizing the data, set the bit value of bit7 to "0".
- 4) Set to recording mode. (Use the wireless remote commander of 8mm VCR, or connect Pin ⑥ of CN935 of DD-95 board and GND with 4.7kΩ resistor for a second.)
4.7kΩ resistor : 1-249-425-11

Adjusting method:

- 1) Insert a tape, set to recording mode.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: F, address: 5C, after note down the data, set data: FF, and press the PAUSE button of the adjusting remote commander.
- 4) Select page: F, address: 65, after note down the data, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 5) Select page: 3, address: 01, set data: 41, and press the PAUSE button of the adjusting remote commander.
- 6) Select page: F, address: 54, change the data and set the Y signal level (A) to the specified value.
- 7) Press the PAUSE button of the adjusting remote commander.
- 8) Select page: F, address: 54, and read the data (D₅₄).
- 9) Calculate the adjustment data (hexadecimal) from the following equations (hexadecimal calculation), and input each adjustment address. (Refer to Table 5-1-2. Hexadecimal-Decimal conversion Table.)

Address: 53 D₅₃ = D₅₄
 Address: 55 D₅₅ = D₅₄
 Address: 56 D₅₆ = D₅₄

Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.

- 10) Write the following data in page: F, address: 57 to 5A.

Address	Data
57	80
58	80
59	80
5A	80

Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.

- 11) Select page: F, address: 5C, set the data noted down at step 3), press the PAUSE button of the adjusting remote commander.
- 12) Select page: F, address: 65, set the data noted down at step 4), press the PAUSE button of the adjusting remote commander.
- 13) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 14) Select page: 0, address: 01, and set data: 00.

Processing after completed adjustment: only for the model without REC switch:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 14, and set the data memorized at step 2) of "Preparations only for the model without REC switch".
- 3) Press the PAUSE button of the adjusting remote commander.
- 4) Select page: D, address: 15, and set the data memorized at step 3) of "Preparations only for the model without REC switch".
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 0, address: 01, and set data: 00.

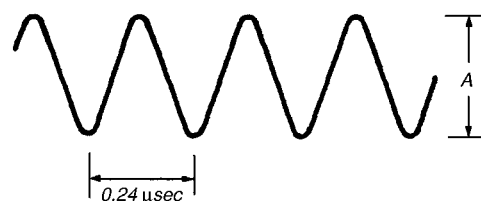


Fig. 5-3-14.

9. Hi8 REC L Level Adjustment (VC-195 board) (CCD-TRV65E/TRV69E/TRV75/TRV75PK/TRV715)

Set the recording levels of the RECAFM signal and REC ATF signal. If the level is too low, the audio S/N will deteriorated, tracking will not be stable, or SP/LP will not be discriminated properly. If too high, color beats will be produced on the self-recording/playback image.

Mode	VTR recording (SP mode)
Signal	No signal
Measurement Point	Pin ⑩ of CN910 (REC RF)
Measuring Instrument	Oscilloscope (20MHz BW LIMIT: OFF)
Adjustment Page	F
Adjustment Address	5B to 64
Specified Value	A = $10.1 \pm 0.6\text{mV}$ (NTSC) A = $11.0 \pm 0.7\text{mV}$ (PAL)

Note 1: Do not insert a plug into the AUDIO (R) terminal.

Note 2: NTSC model : CCD-TRV75/TRV75PK/TRV715

PAL model : CCD-TRV65E/TRV69E

Connection:

1) Remove C085 (0.01 μ F, Pin ⑩ of IC202).

Note: After completing “REC L Level Adjustment” and “REC C Current Adjustment”, replace C085 with new parts (1-162-970-11 CERAMIC CHIP 0.01 μ F 10% 25V).

Preparations only for the model without REC switch:

- 1) Insert Hi8 ME tape.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: D, address: 14, after memorizing the data, set the bit value of bit1 to “1”. (Refer to “3. Bit value discrimination” of “3-1-8. Service mode”).
- 4) Select page: D, address: 15, after memorizing the data, set the bit value of bit7 to “0”.
- 5) Set to recording mode. (Use the wireless remote commander of 8mm VCR, or connect Pin ⑥ of CN935 of DD-95 board and GND with 4.7k Ω resistor for a second.)
4.7k Ω resistor : 1-249-425-11

Adjusting method:

- 1) Insert Hi8 ME tape, set to recording mode.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: F, address: 5B, set data: FF, and press the PAUSE button of the adjusting remote commander.
- 4) Select page: F, address: 65, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 5) Select page: F, address: 5C, change the data and set the REC AFM signal level (A) to the specified value.
- 6) Press the PAUSE button of the adjusting remote commander.
- 7) Select page: F, address: 5C, read the data (D5C).

- 8) Calculate the adjustment data (hexadecimal) from the following equations (hexadecimal calculation), and input each adjustment address. (Refer to Table 5-1-2. Hexadecimal-Decimal conversion Table.)

NTSC model

Address: 5B	$D_{5B} = D_{5C}$
Address: 5D	$D_{5D} = D_{5C} - 0C$
Address: 5E	$D_{5E} = D_{5C} - 0C$
Address: 5F	$D_{5F} = D_{5C} + 12$
Address: 60	$D_{60} = D_{5C} + 12$
Address: 61	$D_{61} = D_{5C} + 13$
Address: 62	$D_{62} = D_{5C} + 13$

PAL model

Address: 5B	$D_{5B} = D_{5C}$
Address: 5D	$D_{5D} = D_{5C}$
Address: 5E	$D_{5E} = D_{5C}$
Address: 5F	$D_{5F} = D_{5C} + 12$
Address: 60	$D_{60} = D_{5C} + 12$
Address: 61	$D_{61} = D_{5C} + 12$
Address: 62	$D_{62} = D_{5C} + 12$

Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.

- 9) Write the following data in page: F, address: 63 to 64.

Address	Data
63	7C (NTSC), 7A (PAL)
64	78 (NTSC), 7A (PAL)

Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.

- 10) Select page: 0, address: 01, and set data: 00.

- 11) Perform “REC C Current Adjustment”.

Processing after completed adjustment: only for the model without REC switch:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 14, and set the data memorized at step 3) of “Preparations only for the model without REC switch”.
- 3) Press the PAUSE button of the adjusting remote commander.
- 4) Select page: D, address: 15, and set the data memorized at step 4) of “Preparations only for the model without REC switch”.
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 0, address: 01, and set data: 00.

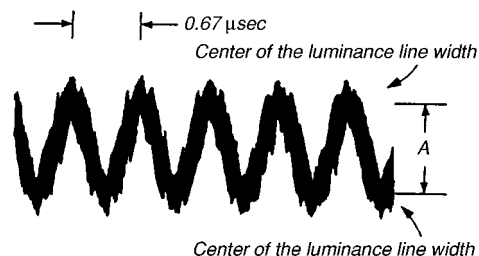


Fig. 5-3-15.

10. Standard8 REC L Level Adjustment (VC-195 board) (CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E)

Set the recording levels of the REC AFM signal and REC ATF signal. If the level is too low, the audio S/N will deteriorated, tracking will not be stable, or SP/LP will not be discriminated properly. If too high, color beats will be produced on the self-recording/playback image.

Mode	VTR recording (SP mode)
Signal	No signal
Measurement Point	Pin ⑩ of CN910 (REC RF)
Measuring Instrument	Oscilloscope (20MHz BW LIMIT: OFF)
Adjustment Page	F
Adjustment Address	5B to 64
Specified Value	A = $9.3 \pm 0.5\text{mV}$

Note 1: Do not insert a plug into the AUDIO (R) terminal.

Connection:

- 1) Remove C085 (0.01 μF , Pin ⑩ of IC202).

Note: After completing “REC L Level Adjustment” and “REC C Current Adjustment”, replace C085 with new parts (1-162-970-11 CERAMIC CHIP 0.01 μF 10% 25V).

Preparations only for the model without REC switch:

- 1) Insert Srandrd8 MP tape.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: D, address: 14, after memorizing the data, set the bit value of bit1 to “1”. (Refer to “3. Bit value discrimination” of “3-1-8. Service mode”).
- 4) Select page: D, address: 15, after memorizing the data, set the bit value of bit7 to “0”.
- 5) Set to recording mode. (Use the wireless remote commander of 8mm VCR, or connect Pin ⑥ of CN935 of DD-95 board and GND with 4.7k Ω resistor for a second.)
4.7k Ω resistor : 1-249-425-11

Adjusting method:

- 1) Insert Srandrd8 MP tape, set to recording mode.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: F, address: 5B, set data: FF, and press the PAUSE button of the adjusting remote commander.
- 4) Select page: F, address: 65, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 5) Select page: F, address: 5C, change the data and set the REC AFM signal level (A) to the specified value.
- 6) Press the PAUSE button of the adjusting remote commander.
- 7) Select page: F, address: 5C, read the data (D_{5C}).
- 8) Calculate the adjustment data (hexadecimal) from the following equations (hexadecimal calculation), and input each adjustment address. (Refer to Table 5-1-2. Hexadecimal-Decimal conversion Table.)

Address: 5B	D _{5B} = D _{5C}
Address: 5D	D _{5D} = D _{5C}
Address: 5E	D _{5E} = D _{5C}
Address: 5F	D _{5F} = D _{5C}
Address: 60	D ₆₀ = D _{5C}
Address: 61	D ₆₁ = D _{5C}
Address: 62	D ₆₂ = D _{5C}

Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.

- 9) Write the following data in page: F, address: 63 to 64.

Address	Data
63	80
64	80

Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.

- 10) Select page: 0, address: 01, and set data: 00.

- 11) Perform “REC C Current Adjustment”.

Processing after completed adjustment: only for the model without REC switch:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 14, and set the data memorized at step 3) of “Preparations only for the model without REC switch”.
- 3) Press the PAUSE button of the adjusting remote commander.
- 4) Select page: D, address: 15, and set the data memorized at step 4) of “Preparations only for the model without REC switch”.
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 0, address: 01, and set data: 00.

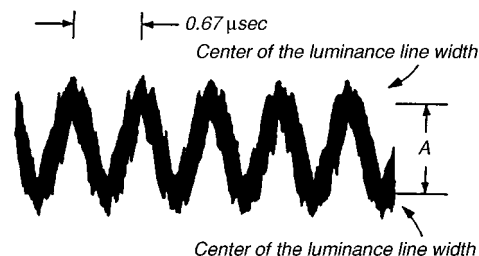


Fig. 5-3-16.

11. REC C Current Adjustment (VC-195 board)

Set the recording current levels of the REC Chroma signal. If it is too low, chroma signal noise in played back picture will increased. If too high, Y signal noises will increase and white modulation noises will be produced.

Mode	VTR recording (SP mode)
Signal	No signal
Measurement Point	Pin ⑩ of CN910 (REC RF)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	65
Specified Value	Hi8 model : A = $34.6 \pm 1.2\text{mV}$ (NTSC) A = $35.7 \pm 1.2\text{mV}$ (PAL) Standard8 model : A = $30.0 \pm 1.1\text{mV}$

Note 1: NTSC Hi8 model: CCD-TRV75/TRV75PK/TRV715
PAL Hi8 model: CCD-TRV65E/TRV69E
PAL Standard8 model: CCD-TRV3E/TRV13E/
TRV23E/TRV45E/TRV55E

Connection:

- 1) Remove C085 (0.01 μ F, Pin ⑩ of IC202).

Note: After completing “REC L Level Adjustment” and “REC C Current Adjustment”, replace C085 with new parts (1-162-970-11 CERAMIC CHIP 0.01 μ F 10% 25V).

- 2) Connect Pin ① of IC001 and GND with a 0.01F capacitor.
0.01 μ F capacitor: 1-101-004-00

Preparations only for the model without REC switch:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 14, after memorizing the data, set the bit value of bit1 to “1”. (Refer to “3. Bit value discrimination” of “3-1-8. Service mode”).
- 3) Select page: D, address: 15, after memorizing the data, set the bit value of bit7 to “0”.
- 4) Set to recording mode. (Use the wireless remote commander of 8mm VCR, or connect Pin ⑥ of CN935 of DD-95 board and GND with 4.7k Ω resistor for a second.)
4.7k Ω resistor : 1-249-425-11

Adjusting method:

- 1) Insert a tape, set to recording mode.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: 3, address: 01, set data: 41, and press the PAUSE button of the adjusting remote commander.
- 4) Select page: 2, address: 61, and set data: 30.
- 5) Select page: F, address: 65, change the data and set the REC chroma signal level (A) to the specified value.
- 6) Press the PAUSE button of the adjusting remote commander.
- 7) Select page: 2, address: 61, and set data: 10.
- 8) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 9) Select page: 0, address: 01, and set data: 00.

Processing after completed adjustment: only for the model without REC switch:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 14, and set the data memorized at step 2) of “Preparations only for the model without REC switch”.
- 3) Press the PAUSE button of the adjusting remote commander.
- 4) Select page: D, address: 15, and set the data memorized at step 3) of “Preparations only for the model without REC switch”.
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 0, address: 01, and set data: 00.

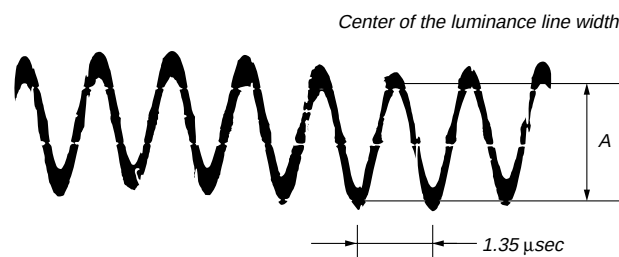


Fig. 5-3-17.

3-5. IR TRANSMITTER ADJUSTMENTS (CCD-TRV75/TRV75PK/TRV715)

Adjust using a IR receiver jig (J-6082-383-A).

Switch setting:

LASER LINK (Red LED is lit)

1. IR Video Carrier Frequency Adjustment (VC-195 board)

Mode	Camera standby
Subject	Arbitrary
Measurement Point	Pin ⑤ of CN003 of IR receiver jig (RF) (Or Pin ⑩ of IC751 of VC-195 board)
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	68
Specified Value	$f = 11.85 \pm 0.05 \text{MHz}$

Connection of Equipment

Connect the measuring device as shown in the following figure, and adjust.

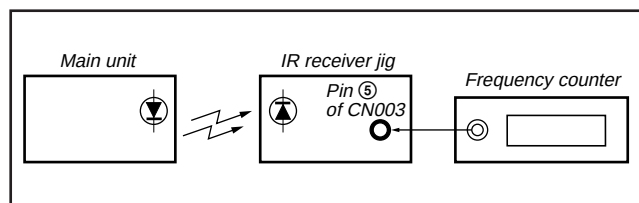


Fig. 5-3-18.

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 37, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: F, address: 68, change the data, and set the video carrier frequency (f) to the specified value.
- 4) Press the PAUSE button of the adjusting remote commander.
- 5) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 6) Select page: 0, address: 01, and set data: 00.

2. IR Video Deviation Adjustment (VC-195 board)

Mode	Camera standby
Subject	Arbitrary
Measurement Point	VIDEO OUT terminal of IR receiver jig (Terminated at 75Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	66
Specified Value	$A = 0.87 \pm 0.04 \text{V}$

Connection of Equipment

Connect the measuring device as shown in the following figure, and adjust.

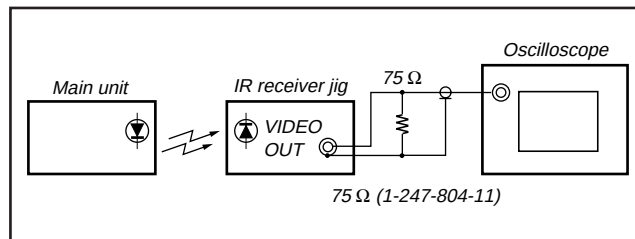


Fig. 5-3-19.

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 39, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: F, address: 66, and change the data, set the video signal amplitude (A) to the specified value.
- 4) Press the PAUSE button of the adjusting remote commander.
- 5) Select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 6) Select page: 0, address: 01, and set data: 00.

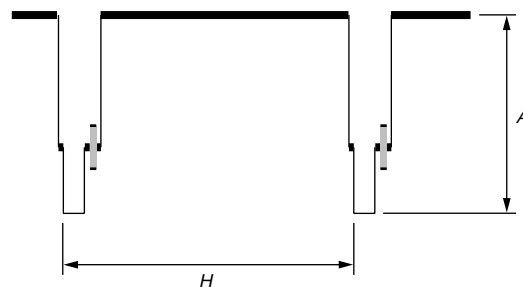


Fig. 5-3-20.

3. IR Audio Deviation Adjustment (VC-195 board)

Mode	VTR recording
Signal	Audio signal : 400Hz, -7.5dBs : L or R of AUDIO terminal Video signal : Color bar signal : VIDEO terminal
Measurement Point	AUDIO L terminal and AUDIO R terminal of IR receiver jig (Terminated at 47k Ω)
Measuring Instrument	Audio level meter
Adjustment Page	F
Adjustment Address	67
Specified Value	Signal level: -7.5 $\pm$ 2.0dBs

Connection of Equipment

Connect the measuring device as shown in the following figure, and adjust.

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Connect the audio level meter to the AUDIO L terminal of the IR receiver jig.
- 3) Select page: F, address: 67, change the data and set the 400Hz audio signal level to the specified value.
- 4) Press the PAUSE button of the adjusting remote commander.
- 5) Connect the audio level meter to the AUDIO R terminal of the IR receiver jig.
- 6) Check that the 400Hz audio signal level is within the specified value. If outside, repeat from step 2).
- 7) Select page: 0, address: 01, and set data: 00.

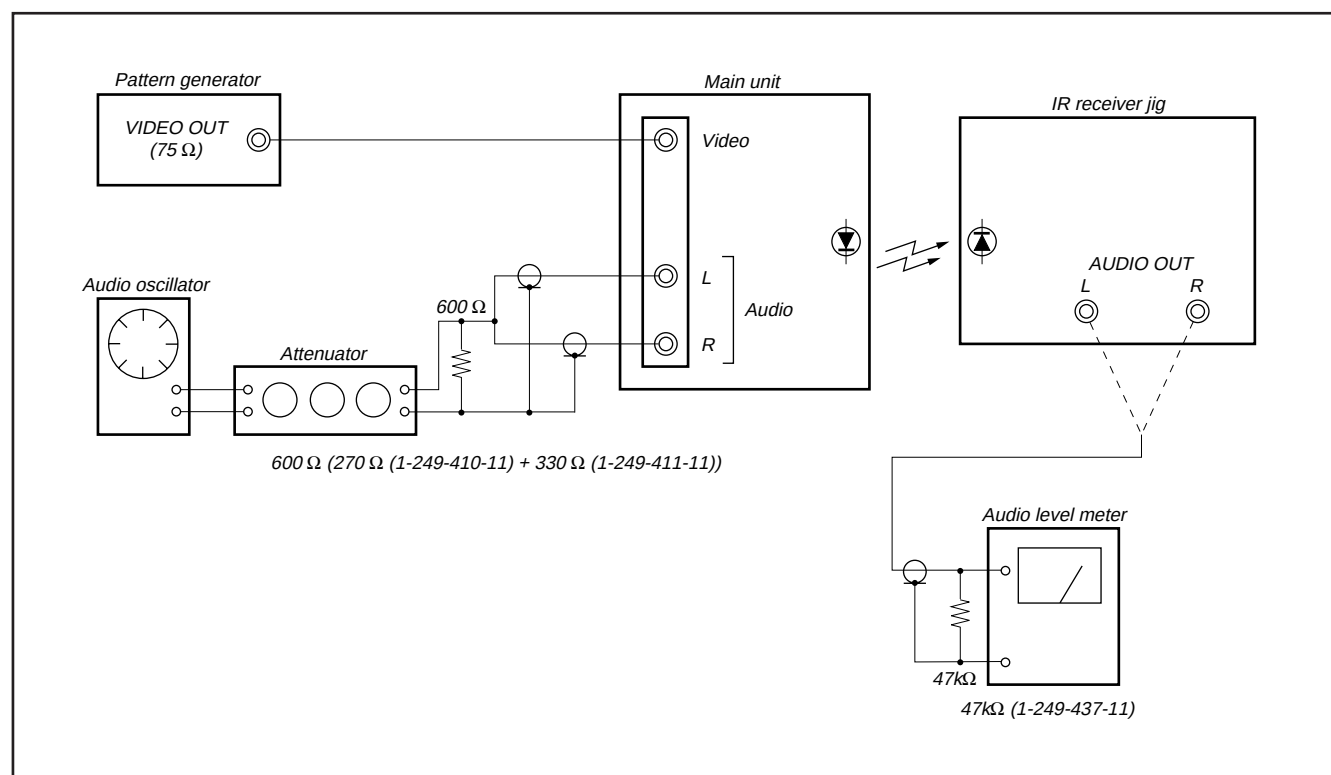


Fig. 5-3-21.

3-6. STEREO AUDIO SYSTEM ADJUSTMENT (CCD-TRV45E/TRV55E/TRV65E/TRV69E/TRV75/ TRV75PK/TRV715)

- Perform the adjustment using the color bar signal as a video signal input for VIDEO terminal.
- The items to be adjusted for the R channel will be indicated within the [], in regard to the adjusting items to be adjusted for both L and R channels.
- Set the Hi-Fi sound switch in the menu display to “STEREO” position unless specified otherwise.

Note:

- 1) When inputting the audio signal, input the same signal to both the L and R channels, unless specified otherwise.
- 2) Be sure to insert the plug (Shorting plug or dummy plug, etc) into the AUDIO terminal (Right). If the plug is not inserted, the monaural mode will be set, and correct adjustments can not be carried out.

[Monaural mode]

During recording REC AFM RF 1.7MHz carrier will not be output.

During playback The L+R signal will be output from the AUDIO terminal (Left).

[Connecting the measuring instruments for the audio]

Connect the audio system measuring instruments in addition to the video system measuring instruments as shown in Fig. 5-3-22, and perform adjustments at the power switch [VTR] or [PLAYER] position.

[Adjustment Procedure]

- 1) 1.5 MHz deviation adjustment
- 2) 1.7 MHz deviation adjustment
- 3) BPF adjustment

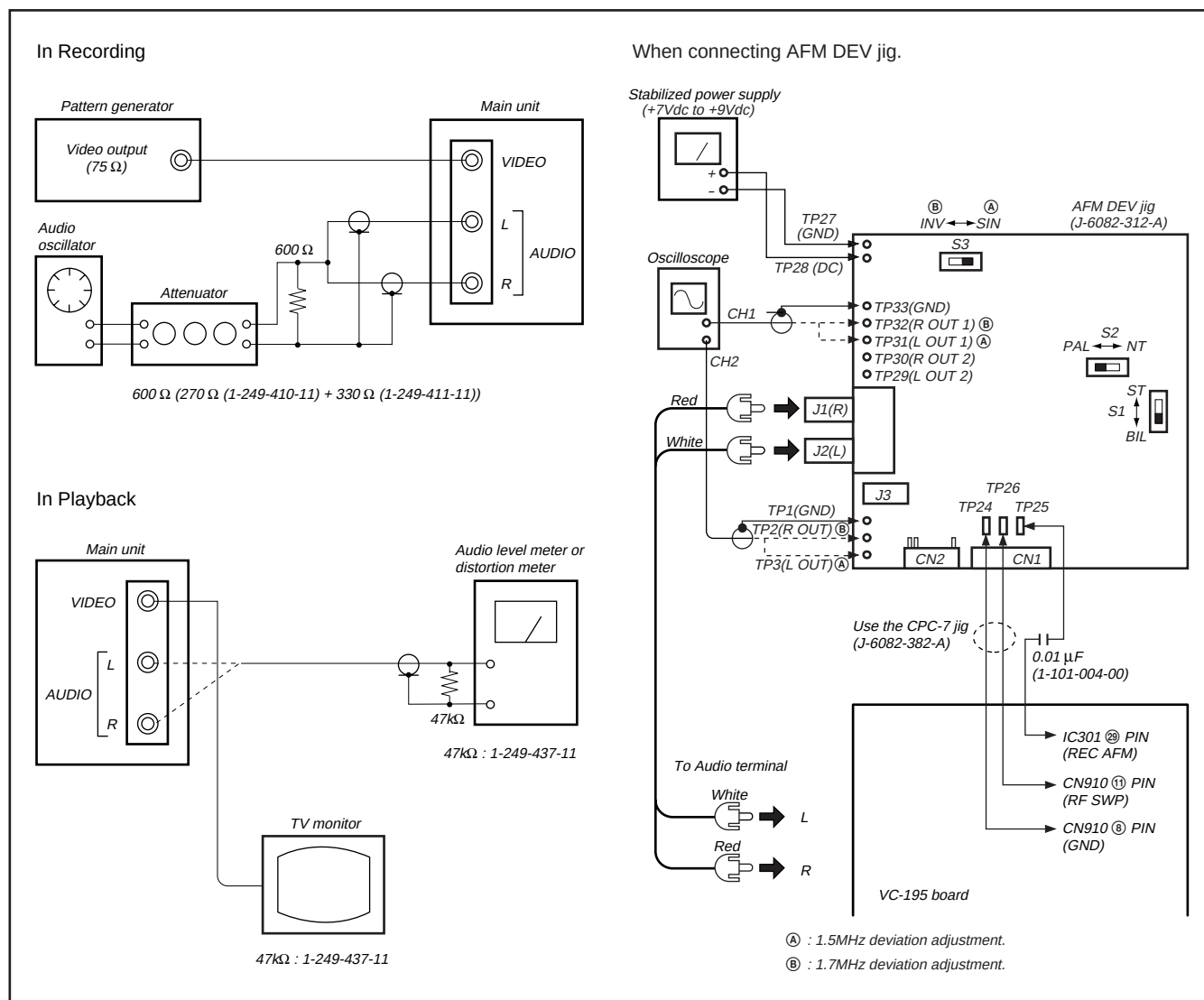


Fig. 5-3-22.

1. 1.5 MHz Deviation Adjustment (VC-195 board)

Sets the spectrum of the L-ch ((L+R)/2 signal) level modulated during recording. If deviated, the crosstalk signal of the audio signal will occur and the audio level will drop during both playback and recording.

Mode	VTR recording
Signal	Input the AFM DEV jig output signal to the left and right audio input terminal
Measurement Point	CH1: AFM DEV jig TP31 CH2: AFM DEV jig TP3
Measuring Instrument	Oscilloscope ADD mode CH2 INV mode
Adjustment Page	F
Adjustment Address	45
Specified Value	The level difference between CH1 signal and CH2 signal should be minimum.

Note 1: NTSC model : CCD-TRV75/TRV75PK/TRV715
PAL model : CCD-TRV45E/TRV55E/TRV65E/TRV69E

Connection:

- 1) Connect TP24 and TP26 of the AFM DEV jig to CN910 of the VC-195 board.
TP24(GND) Pin ⑧ of CN910
TP26(RF SWP) Pin ⑪ of CN910
- 2) Connect TP25 (REC AFM) of the AFM DEV jig to Pin ⑳ of IC301 with a 0.01 μ F capacitor (1-101-004-00).
- 3) Connect the audio output terminal (J1 and J2) of the AFM DEV jig to AUDIO terminal of the unit.
- 4) Connect TP28 (DC), TP27 (GND) of the AFM DEV jig to the DC power supply (+7Vdc to +9Vdc).
- 5) Set the AFM DEV jig switches to the following positions.
S1 BIL Position
S2 NT Position (NTSC)
PAL Position (PAL)
S3 SIN Position

Preparations only for the model without REC switch:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 14, after memorizing the data, set the bit value of bit1 to "1". (Refer to "3. Bit value discrimination" of "3-1-8. Service mode").
- 3) Select page: D, address: 15, after memorizing the data, set the bit value of bit7 to "0".
- 4) Set to recording mode. (Use the wireless remote commander of 8mm VCR, or connect Pin ⑥ of CN935 of DD-95 board and GND with 4.7k Ω resistor for a second.)
4.7k Ω resistor : 1-249-425-11

Adjusting method :

- 1) Match the vertical ranges of CH1 and CH2 of the oscilloscope to each other.
- 2) Set the oscilloscope to the ADD mode and CH2 to the INV (invert) mode.
- 3) Select page: 0, address: 01, and set data: 01.
- 4) Select page: F, address: 45, change the data and minimize the audio signal level difference (A).
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 0, address: 01, and set data: 00.

Processing after completed adjustment: only for the model without REC switch:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 14, and set the data memorized at step 2) of "Preparations only for the model without REC switch".
- 3) Press the PAUSE button of the adjusting remote commander.
- 4) Select page: D, address: 15, and set the data memorized at step 3) of "Preparations only for the model without REC switch".
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 0, address: 01, and set data: 00.

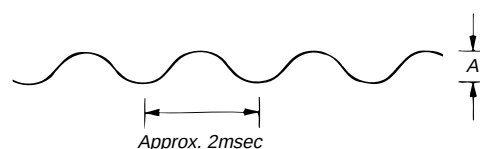


Fig. 5-3-23.

2. 1.7 MHz Deviation Adjustment (VC-195 board)

Sets the spectrum of the R-ch ((L-R)/2 signal) level modulated during recording. If deviated, the crosstalk signal of the audio signal will occur and the audio level will drop during both playback and recording.

Mode	VTR recording
Signal	Input the AFM DEV jig output signal to the left and right audio input terminal
Measurement Point	CH1: AFM DEV jig TP32 CH2: AFM DEV jig TP2
Measuring Instrument	Oscilloscope ADD mode CH2 normal mode
Adjustment Page	F
Adjustment Address	46
Specified Value	The level difference between CH1 signal and CH2 signal should be minimum.

Connection:

- 1) Connect TP24 and TP26 of the AFM DEV jig to CN910 of the VC-195 board.
TP24 (GND) Pin ⑧ of CN910
TP26 (RF SWP) Pin ⑪ of CN910
- 2) Connect TP25 (REC AFM) of the AFM DEV jig to Pin ⑳ of IC301 with a 0.01 μ F capacitor (1-101-004-00).
- 3) Connect the audio output terminal (J1 and J2) of the AFM DEV jig to AUDIO terminal of the unit.
- 4) Connect TP28 (DC), TP27 (GND) of the AFM DEV jig to the DC power supply (+7Vdc to +9Vdc).
- 5) Set the AFM DEV jig switches to the following positions.
S1 BIL Position
S2 NT Position (NTSC)
PAL Position (PAL)
S3 INV Position

Preparations only for the model without REC switch:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 14, after memorizing the data, set the bit value of bit1 to "1". (Refer to "3. Bit value discrimination" of "3-1-8. Service mode").
- 3) Select page: D, address: 15, after memorizing the data, set the bit value of bit7 to "0".
- 4) Set to recording mode. (Use the wireless remote commander of 8mm VCR, or connect Pin ⑥ of CN935 of DD-95 board and GND with 4.7k Ω resistor for a second.)
4.7k Ω resistor : 1-249-425-11

Adjusting method :

- 1) Match the vertical ranges of CH1 and CH2 of the oscilloscope to each other.
- 2) Set the oscilloscope to the ADD mode and CH2 to the normal mode.
- 3) Select page: 0, address: 01, and set data: 01.
- 4) Select page: F, address: 46, change the data and minimize the audio signal level difference (A).
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 0, address: 01, and set data: 00.

Processing after completed adjustment: only for the model without REC switch:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 14, and set the data memorized at step 2) of "Preparations only for the model without REC switch".
- 3) Press the PAUSE button of the adjusting remote commander.
- 4) Select page: D, address: 15, and set the data memorized at step 3) of "Preparations only for the model without REC switch".
- 5) Press the PAUSE button of the adjusting remote commander.
- 6) Select page: 0, address: 01, and set data: 00.

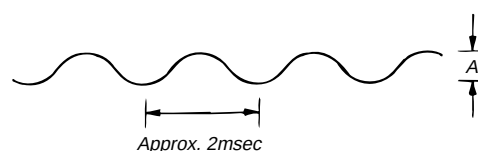


Fig. 5-3-24.

3. BPF f0 Adjustment (VC-195 board)

Sets the BPF passing frequency so that the AFM signal can separate from the playback RF signal properly. If deviated, the mono/stereo mode will be differentiated incorrectly, and noises and distortions will increase during high volume playback.

Mode	Playback
Signal	Alignment tape: For BPF adjustment (WR5-11NS (NTSC)) (WR5-11CS (PAL))
Measurement Point	Audio output terminal left or right
Measuring Instrument	Distortion meter
Adjustment Page	F
Adjustment Address	47
Specified Value	The Main and Sub channel distortion rate should be almost the same (within±1%) and minimum.

Note 1: NTSC model : CCD-TRV75/TRV75PK/TRV715
PAL model : CCD-TRV45E/TRV55E/TRV65E/TRV69E

Adjusting method :

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Set the Hi-Fi sound switch (menu display) to "2".
- 3) Select page: F, address: 47, change the data and minimize the distortion rate.
- 4) Press the PAUSE button of the adjusting remote commander.
- 5) Set the Hi-Fi sound switch (menu display) to "1".
- 6) Select page: F, address: 47, change the data and minimize the distortion rate.
- 7) Press the PAUSE button of the adjusting remote commander.
- 8) Repeat steps 2) to 7) and set the data of address: 47 so that the distortions rates when the Hi-Fi sound switch is set to "2" and set to "1" respectively are almost the same and minimum.
- 9) Press the PAUSE button of the adjusting remote commander.
- 10) Select page: 0, address: 01, and set data: 00.
- 11) Set the Hi-Fi sound switch to "STEREO".

3-7. MONAURAL AUDIO SYSTEM ADJUSTMENT (CCD-TRV3E/TRV13E/TRV23E)

[Connecting the measuring instruments for the audio]

Connect the audio system measuring instruments besides the video system measuring instruments as shown Fig. 5-3-25.

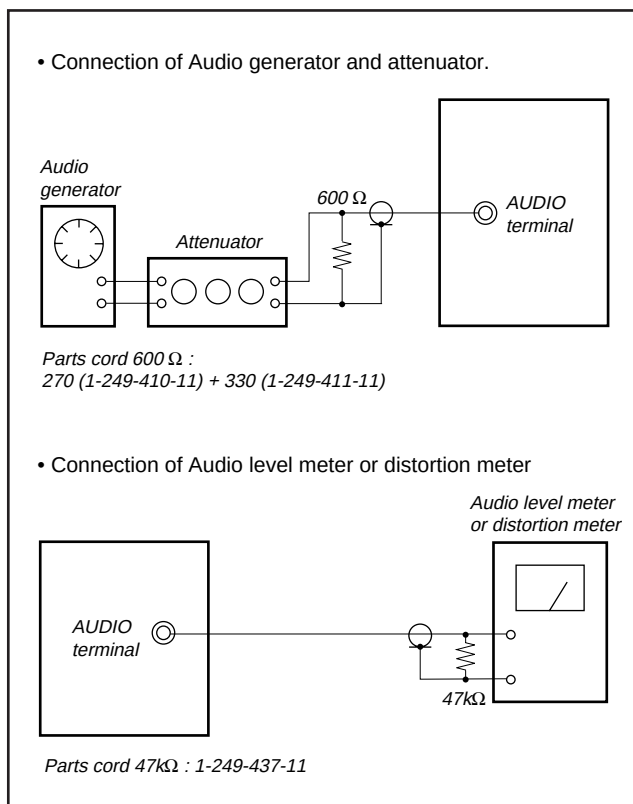


Fig. 5-3-25.

1. 1.5 MHz Deviation Adjustment (VC-195 board)

Adjust to the optimum audio FM signal distortion.
If the adjustment is not correct, its playback level will differ from that of other units.

Mode	Playback
Signal	Alignment tape: For checking the operation (WR5-5CSP)
Measurement Point	Audio output terminal
Measuring Instrument	Audio level meter
Adjustment Page	F
Adjustment Address	45
Specified Value	-7.5±0.5dBs

Adjusting method :

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: F, address: 45, change the data and set the 400Hz signal level to the specified value.
- 3) Press the PAUSE button of the adjusting remote commander.
- 4) Select page: 0, address: 01, and set data: 00.

2. BPF Adjustment (VC-195 board)

Adjust to the optimum audio BPF characteristics of the IC.
If the adjustment is not correct, the distortion rate and S/N ratio will worsen.

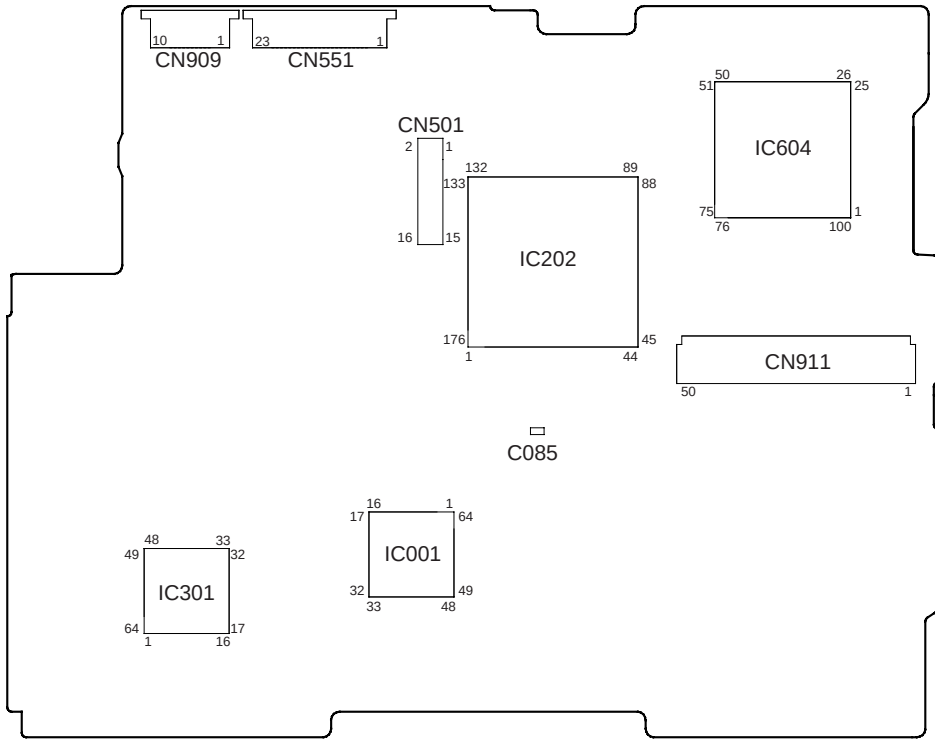
Mode	Playback
Signal	Alignment tape: For BPF adjustment (WR5-11CS)
Measurement Point	Audio output terminal
Measuring Instrument	distortion meter
Adjustment Page	F
Adjustment Address	47
Specified Value	The distortion rate should be and minimum.

Adjusting method :

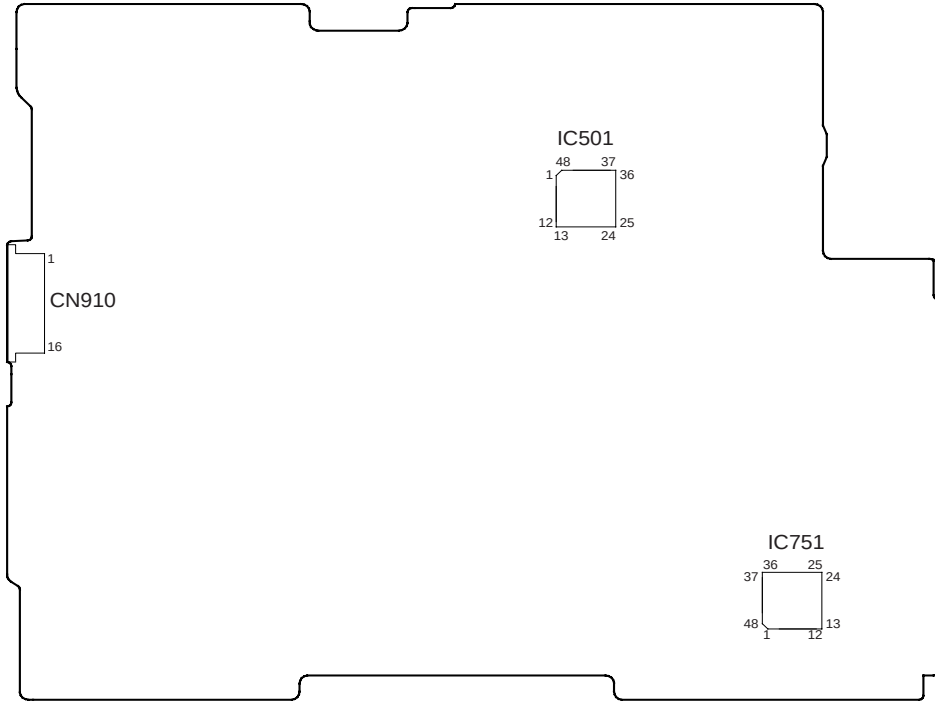
- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: F, address: 47, change the data and minimize the distortion rate.
- 3) Press the PAUSE button of the adjusting remote commander.
- 4) Select page: 0, address: 01, and set data: 00.

3-8. ARRANGEMENT DIAGRAM FOR ADJUSTMENT PARTS

VC-195 BOARD (SIDE A)



VC-195 BOARD (SIDE B)



CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/TRV65E/ TRV69E/TRV75/TRV75PK/TRV715

SECTION 6 REPAIR PARTS LIST

6-1. EXPLODED VIEWS

NOTE:

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

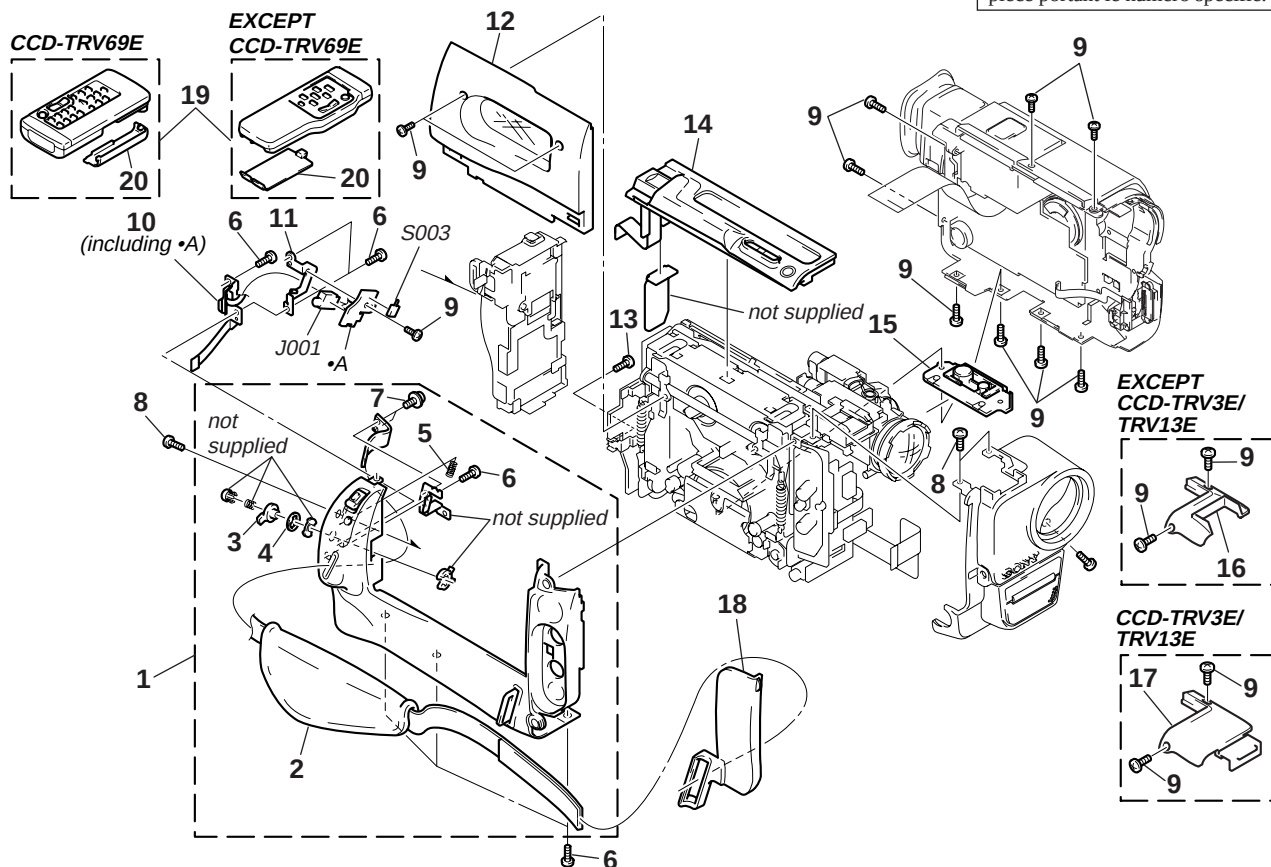
• Abbreviation

CND : Canadian Model
EE : East European Model
NE : North European Model
RU : Russian Model
HK : Hong Kong Model
AUS : Australian Model
JE : Tourist Model
CN : Chinese Model

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

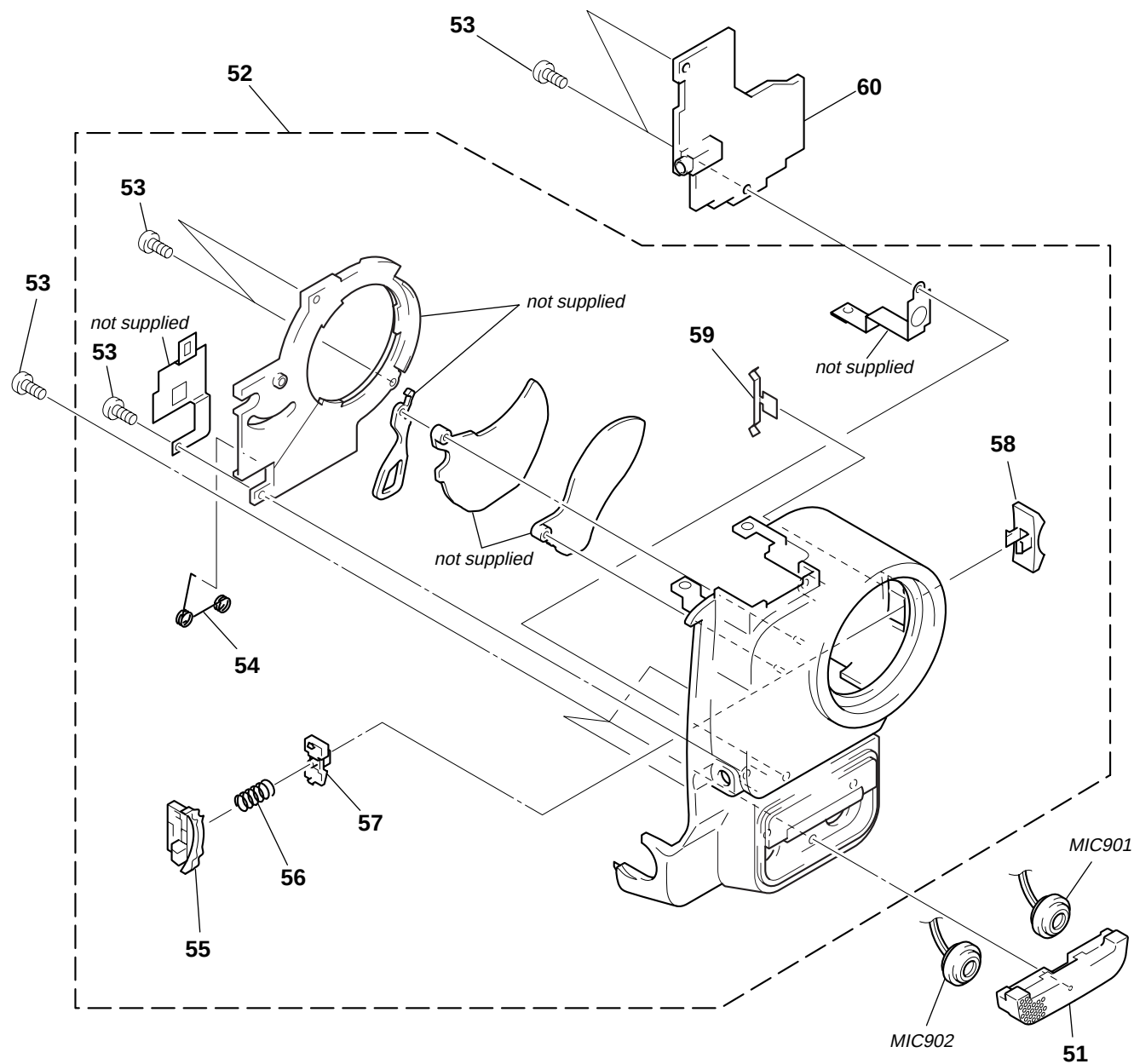
Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-1-1. CABINET (L) BLOCK ASSEMBLY



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	X-3948-205-1	CABINET (L) ASSY (TRV65E)		13	3-713-786-21	SCREW (M2X3)	
1	X-3948-315-1	CABINET (L) ASSY (TRV75/TRV75PK/TRV715)		14	1-475-617-11	SWITCH BLOCK, CONTROL(FK-8500)	
1	X-3948-207-1	CABINET (L) ASSY (TRV3E/TRV13E/TRV23E/TRV69E)		14	1-475-617-31	SWITCH BLOCK, CONTROL (FK-8500)	(TRV3E/TRV13E)
1	X-3948-316-1	CABINET (L) ASSY (TRV45E/TRV55E)		14	1-475-618-21	SWITCH BLOCK, CONTROL(FK-8500)	(TRV23E/TRV65E/TRV69E)
2	3-969-339-31	BELT, GRIP		14	1-475-618-41	SWITCH BLOCK, CONTROL(FK-8500)	(TRV45E/TRV55E)
3	3-969-081-01	KNOB, STAND-BY		14	1-475-618-41	SWITCH BLOCK, CONTROL(FK-8500)	(TRV75/TRV75PK/TRV715)
4	3-970-854-01	SPRING, STAND-BY		15	3-987-717-01	SCREW, TRIPOD	
5	3-302-492-00	SPRING, COMPRESSION		16	3-987-639-11	CABINET (S) (878)	
6	3-948-339-61	TAPPING					(TRV45E/TRV55E/TRV75/TRV75PK/TRV715)
7	3-679-362-11	SCREW		16	3-987-639-01	CABINET (S) (870))	(TRV23E/TRV65E/TRV69E)
8	3-962-826-01	SCREW (2X4)		17	3-987-645-01	CABINET (N)(TRV3E/TRV13E)	
9	3-968-729-01	SCREW (M2), LOCK ACE, P2		18	3-975-522-01	COVER, JACK	
10	1-475-619-21	SWITCH BLOCK, CONTROL(SS-8500)(TRV55E)		19	1-467-574-21	REMOTE COMMANDER (RMT-708)	
10	1-475-619-11	SWITCH BLOCK, CONTROL(SS-8500)	(EXCEPT TRV55E)				(EXCEPT TRV69E)
* 11	3-975-532-01	HOLDER, EL		19	8-917-593-90	REMOTE COMMANDER (RMT-717)(TRV69E)	
12	X-3947-199-1	LID ASSY, CASSETTE (TRV75:US,CND/TRV715)		20	3-958-131-01	LID, BATTERY CASE (for RMT-708)	
12	X-3948-222-1	LID ASSY, CASSETTE (TRV65E/69E)		20	3-742-854-01	LID, BATTERY CASE (for RMT-717)	
12	X-3948-223-1	LID ASSY, CASSETTE (TRV3E/TRV13E/TRV23E)		J001	1-565-276-31	JACK, ULTRA SMALL 1P (LANC)	
12	X-3948-329-1	LID ASSY, CASSETTE (TRV45E/TRV55E)		S003	1-572-688-11	SWITCH, PUSH (1 KEY) (EJECT)	
12	X-3948-331-1	LID ASSY, CASSETTE (TRV75:E,JE/TRV75PK)					

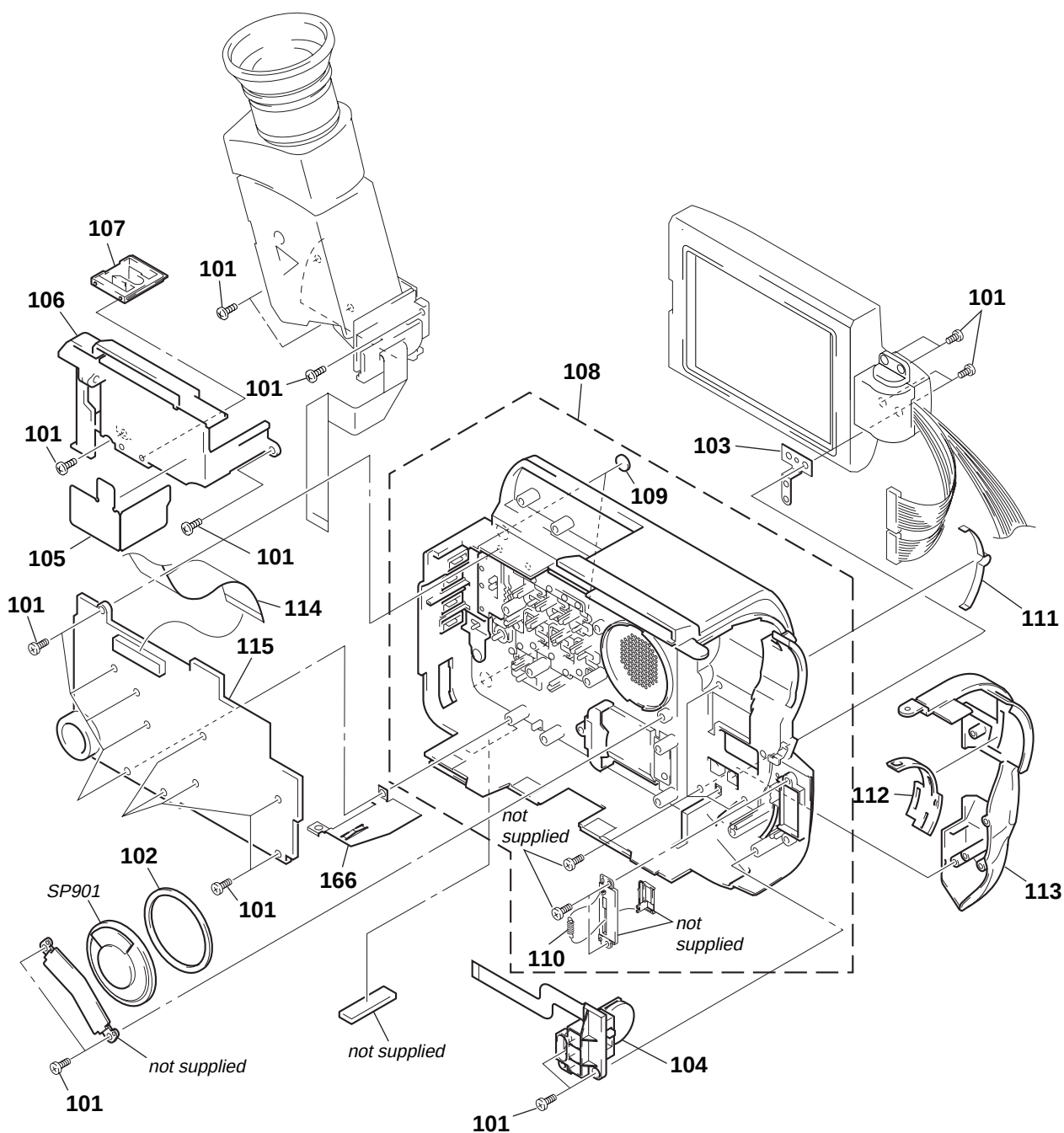
6-1-2. FRONT PANEL BLOCK ASSEMBLY



Ref. No.	Part No.	Description	Remark
51	X-3948-170-1	GRILLE (870) ASSY, MICROPHONE	
52	X-3948-189-1	PANEL (870) ASSY, FRONT (TRV3E/TRV13E)	
52	X-3948-198-1	PANEL (870) ASSY, FRONT (TRV23E)	
52	X-3948-197-1	PANEL (870) ASSY, FRONT (TRV69E)	
52	X-3948-200-1	PANEL (870) ASSY, FRONT (TRV65E)	
52	X-3948-203-1	PANEL (887) ASSY, FRONT (TRV45E/TRV55E)	
52	X-3948-275-1	PANEL (887) ASSY, FRONT (TRV75/TRV75PK/TRV715)	
53	3-948-339-61	TAPPING	
54	3-987-882-01	SPRING, TORSION	
55	3-987-632-01	HOLDER, P KNOB	
56	3-973-619-01	SPRING, COMPRESSION	
57	3-987-633-01	BUTTON, LOCK	
58	3-987-631-01	KNOB, P (TRV23E:E1,HK,AUS/TRV45E:AUS,E2/TRV55E/TRV65E:AEP,EE,NE,RU/TRV75:HK,US,CND/TRV75PK)	

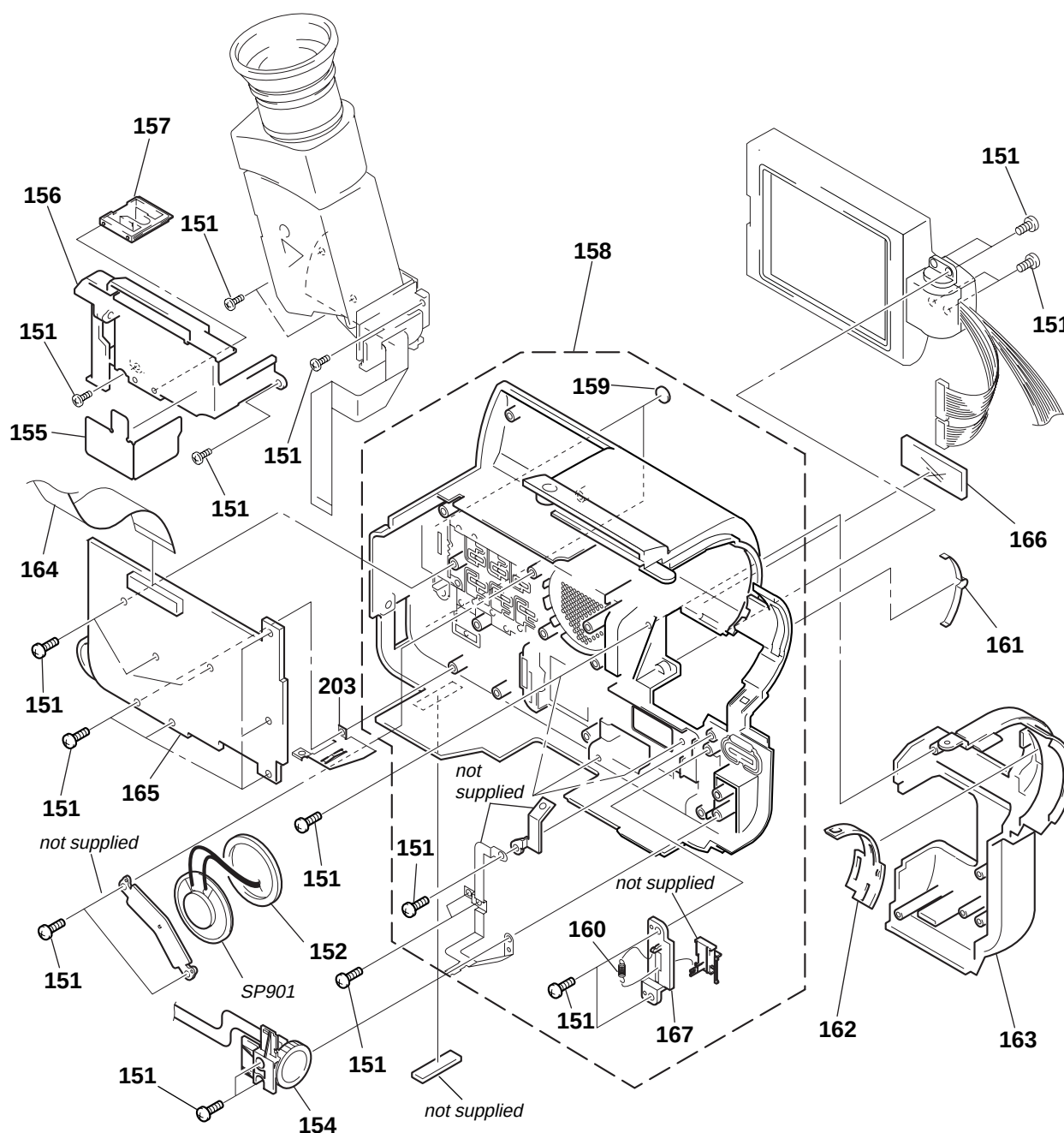
Ref. No.	Part No.	Description	Remark
58	3-987-631-02	KNOB, P (TRV3E/TRV13E/TRV23E:E2/TRV45E:E1,HK/TRV65E:AEP,UK/TRV69E/TRV75:E/TRV715)	
59	3-987-642-01	SPRING, CLICK	
60	A-7073-476-A	MA-331(VZL) BOARD, COMPLETE (TRV3E/TRV13E)	
60	A-7073-478-A	MA-331(VHO) BOARD, COMPLETE (TRV45E/TRV55E)	
60	A-7073-430-A	MA-312(VHI) BOARD, COMPLETE (TRV75/TRV75PK/TRV715)	
60	A-7073-501-A	MA-331(VHO) BOARD, COMPLETE (TRV65E)	
60	A-7073-451-A	MA-331(VMM0) BOARD, COMPLETE (TRV23E/TRV69E)	
MIC901	1-542-312-11	MICROPHONE (L-CH)	
MIC902	1-542-312-11	MICROPHONE (R-CH) (EXCEPT TRV3E/TRV13E/TRV23E)	

6-1-3. CABINET (R) BLOCK ASSEMBLY (TRV45E/TRV55E/TRV75/TRV75PK/TRV715)



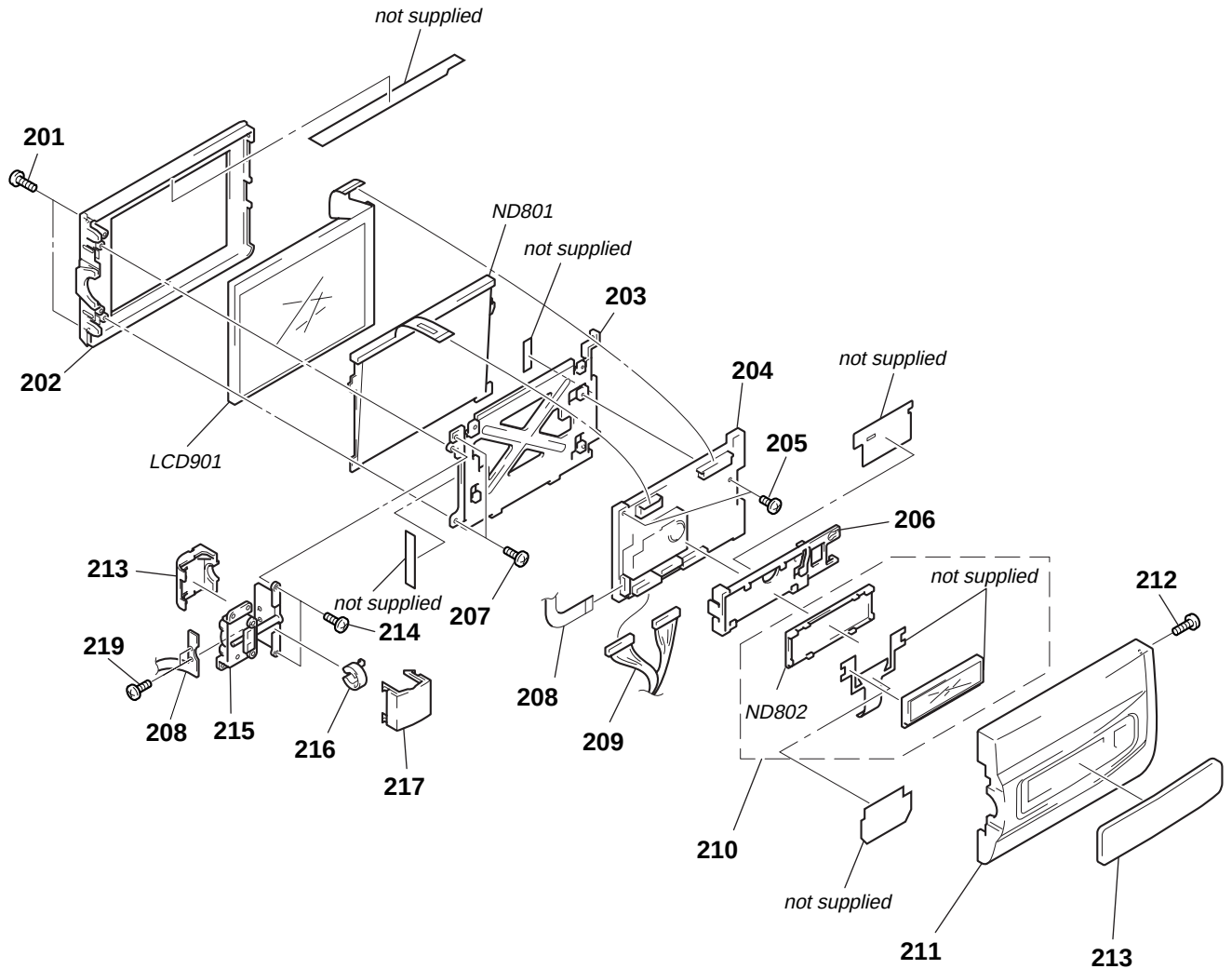
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	3-948-339-61	TAPPING		109	3-959-978-02	CUSHION, PANEL	
102	3-965-367-01	SPACER, SP		110	3-989-121-01	SPRING, TENSION	
103	3-987-769-01	PLATE, HINGE GROUND		111	3-987-739-01	SPRING, LINK PLATE	
104	1-475-621-11	SWITCH BLOCK, CONTROL(MR-8500)		112	3-987-744-01	KNOB, IR	
* 105	3-987-842-01	SHEET, VF FLEXIBLE RETAINE		113	3-987-764-01	COVER, IR	
106	3-987-792-01	BASE (887), VF		114	1-783-240-11	CABLE, FLEXIBLE FLAT (FFC-236)	
107	3-987-783-01	LOCK, TILT		115	A-7073-431-A	CF-51(VH) BOARD, COMPLETE (TRV45E/TRV75/TRV75PK/TRV715)	
108	X-3948-267-1	CABINET (R) (887) ASSY (TRV75:US,CND/TRV715)		115	A-7073-479-A	CF-51(VMR) BOARD, COMPLETE (TRV55E)	
108	X-3948-268-1	CABINET (R) (883) ASSY (TRV45E/TRV75:E/TRV75PK)		116	3-987-770-01	PLATE (887), GROUND	
108	X-3948-269-1	CABINET (R) (886) ASSY (TRV55E)		SP901	1-504-753-21	SPEAKER (2.8CM)	

6-1-4. CABINET (R) BLOCK ASSEMBLY (TRV3E/TRV13E/TRV23E/TRV65E/TRV69E)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	3-948-339-61	TAPPING		160	3-987-742-01	SPRING, TENSION	
152	3-965-367-01	SPACER, SP		161	3-987-739-01	SPRING, LINK PLATE (TRV23E/TRV65E/TRV69E)	
153	3-987-742-01	PLATE(878), GROUND		162	3-987-744-01	KNOB, IR (TRV23E/TRV65E/TRV69E)	
154	1-475-620-11	SWITCH BLOCK, CONTROL(MF-8500)		163	3-987-730-01	COVER, IR (TRV65E)	
* 155	3-987-842-01	SHEET, VF FLEXIBLE RETAINER					
156	3-987-786-01	BASE (878),VF (TRV13E/TRV23E)		163	3-987-730-41	COVER, IR (TRV3E/TRV13E)	
156	X-3948-603-1	BASE, VF ASSY (TRV3E/TRV65E/TRV69E)		163	3-987-730-21	COVER, IR (TRV23E)	
157	3-987-783-01	LOCK, TILT		163	3-987-730-31	COVER, IR (TRV69E)	
158	X-3948-239-1	CABINET (R) (878) ASSY (TRV65E:AEP,UK,CN)		164	1-783-240-11	CABLE, FLEXIBLE FLAT (FFC-236)	
158	X-3948-243-1	CABINET (R) (8451) ASSY (TRV13E:AEP,UK)		165	A-7073-403-A	CF-50(E7V) BOARD, COMPLETE (TRV3E/TRV13E)	
158	X-3948-241-1	CABINET (R) (872) ASSY (TRV69E)		165	A-7073-412-A	CF-50(ESV) BOARD, COMPLETE (TRV23E/TRV65E/TRV69E)	
158	X-3948-242-1	CABINET (R) (871) ASSY (TRV23E)		166	3-987-729-01	PLATE, ORNAMENTAL (TRV65E)	
158	X-3948-244-1	CABINET (R) (877) ASSY (TRV65E:EE,NE,RU)		166	3-987-729-11	PLATE, ORNAMENTAL (TRV3E/TRV13E/TRV23E)	
158	X-3948-245-1	CABINET (R) (877) ASSY (TRV13E:EE,NE,RU)		166	3-987-729-41	PLATE, ORNAMENTAL (TRV69E)	
158	X-3948-484-1	CABINET (R) (8451E) ASSY (TRV3E)		167	3-987-736-01	LID,MK	
159	3-959-978-02	CUSHION,PANEL (EXCEPT TRV65E:EE,NE,RU,CN)		SP901	1-505-291-11	SPEAKER (DIA 2.8CM)	

6-1-5. LCD BLOCK ASSEMBLY(3/3.5INCH) (TRV45E/TRV55E/TRV75/TRV75PK/TRV715)



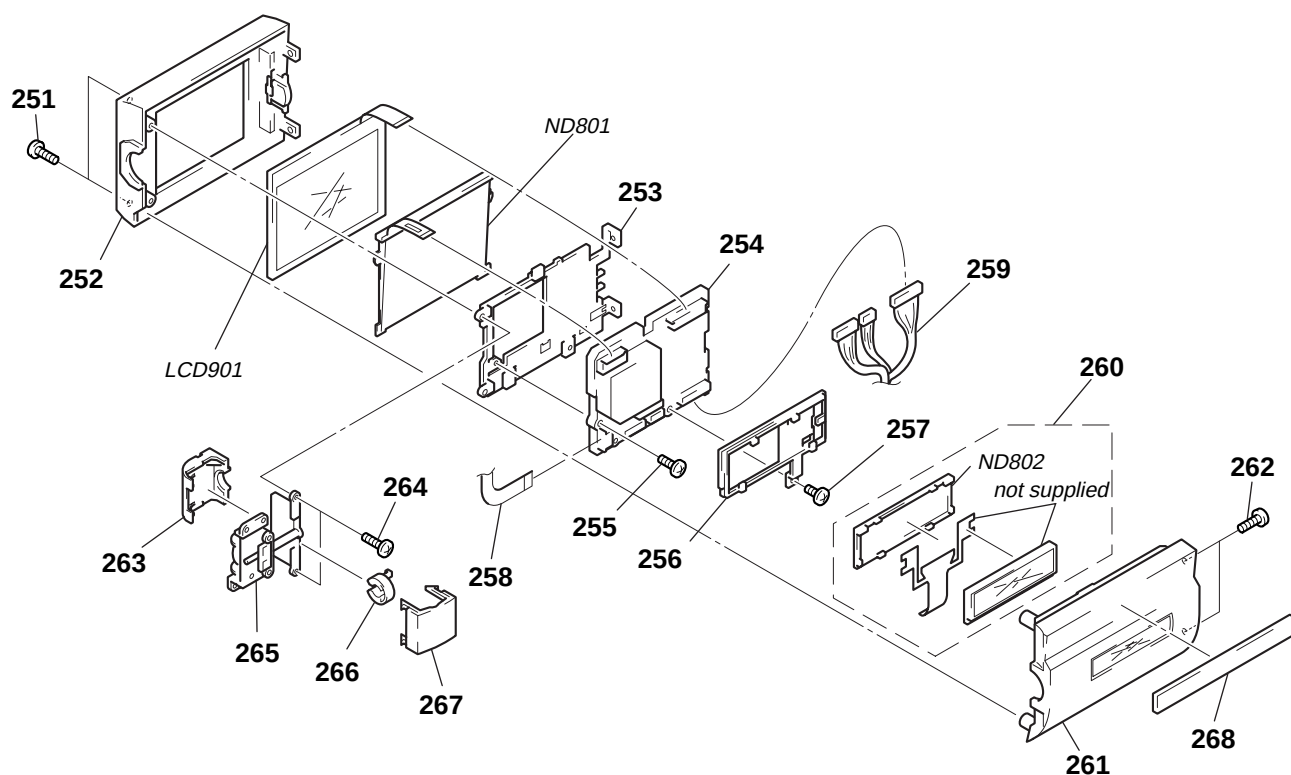
The components identified by mark $\triangle$ or dotted line with mark $\triangle$ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque $\triangle$ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
201	3-948-339-11	SCREW, TAPPING	
202	3-987-593-01	CABINET (M) (885), P (TRV45E/TRV55E)	
202	3-987-593-11	CABINET (M) (885), P (TRV75/TRV75PK/TRV715)	
203	3-987-594-01	FRAME (885), PANEL	
204	A-7073-480-A	PD-93(SP3.5) BOARD, COMPLETE (TRV45E/TRV55E)	
204	A-7073-457-A	PD-93(SN3) BOARD, COMPLETE (TRV75/TRV75PK/TRV715)	
205	3-713-786-21	SCREW (M2X3)	
206	3-987-597-01	HOLDER (885), LCD	
207	3-948-339-61	TAPPING	
208	1-668-963-41	FP-642 FLEXIBLE BOARD	
209	1-958-332-11	HARNESS (DP-71)	
210	A-7093-486-A	INDICATION LCD BLOCK ASSY	
211	X-3948-165-1	CABINET (C) (885) H ASSY, P	
212	3-962-826-01	SCREW (2X4)	
213	3-987-601-21	WINDOW (885), LCD (TRV75/TRV75PK/TRV715)	

Ref. No.	Part No.	Description	Remark
213	3-987-601-31	WINDOW (885), LCD (TRV55E)	
213	3-987-601-41	WINDOW (885), LCD (TRV45E)	
214	3-948-339-01	SCREW, TAPPING	
215	X-3948-169-1	HINGE ASSY	
216	3-987-623-01	CLAMP, HARNESS	
217	3-987-626-01	COVER (C) (885), HINGE	
218	3-987-625-11	COVER (M), HINGE	
219	4-981-286-01	SCREW(M1.7x2), IB LOCK	
LCD901	1-803-038-21	INDICATOR MODULE, LIQUID CRYST (TRV45E/TRV55E)	
LCD901	1-803-037-21	INDICATOR MODULE, LIQUID CRYST (TRV75/TRV75PK/TRV715)	
$\triangle$ ND801	1-517-753-11	TUBE, FLUORESCENT,COLD CATHODE (TRV75/TRV75PK/TRV715)	
$\triangle$ ND801	1-517-754-11	TUBE, FLUORESCENT,COLD CATHODE (TRV45E/TRV55E)	
$\triangle$ ND802	1-517-759-11	LIGHT, BACK	

6-1-6. LCD BLOCK ASSEMBLY (2.5INCH)(TRV3E/TRV13E/TRV23E/TRV65E/TRV69E)

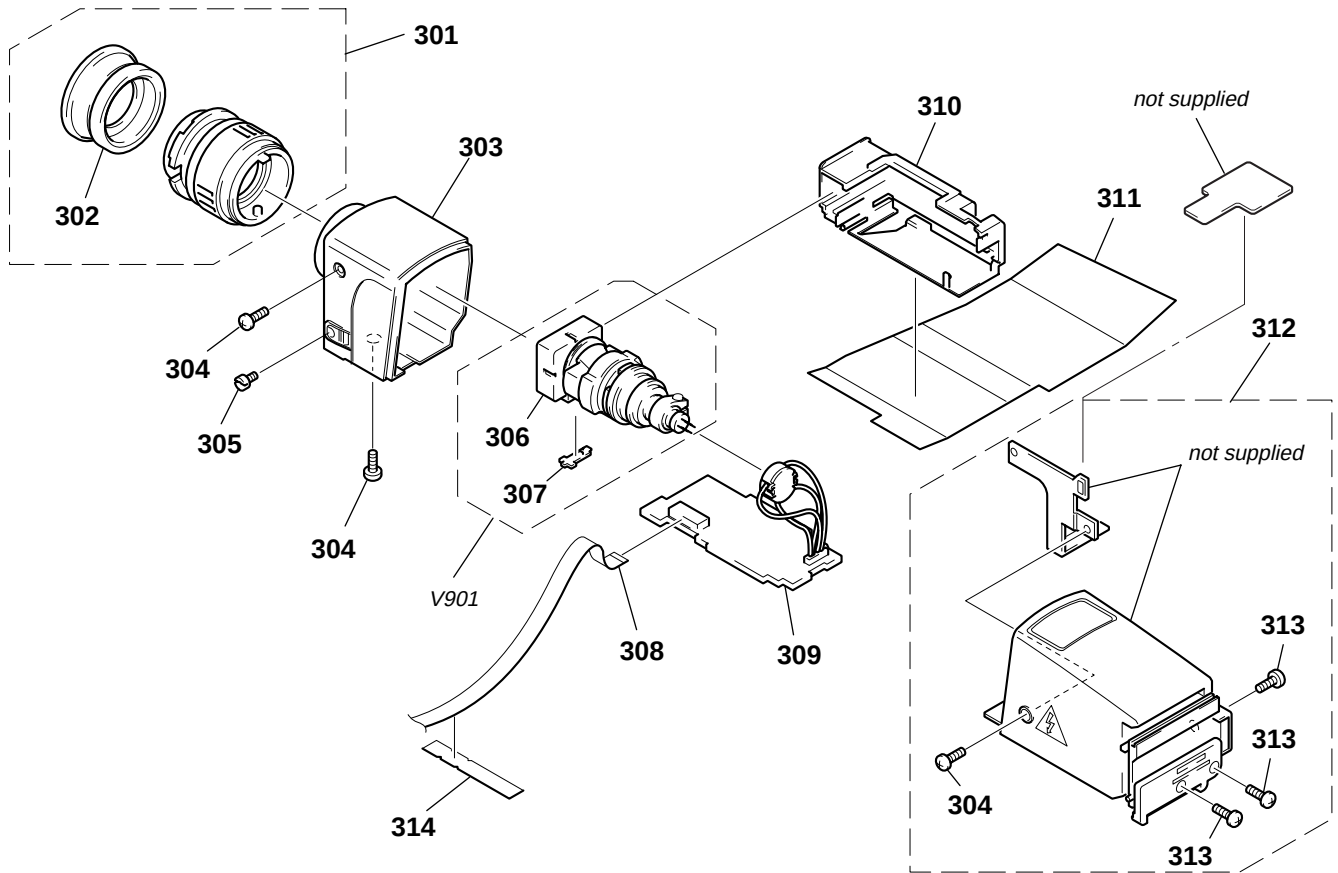


The components identified by mark $\triangle$ or dotted line with mark $\triangle$ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque $\triangle$ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
251	3-948-339-11	SCREW, TAPPING		262	3-962-826-01	SCREW(2X4)	
252	X-3948-162-1	CABINET (M) (870) ASSY, P		263	3-987-625-01	COVER (M), HINGE	
253	3-987-582-01	FRAME (870), PANEL		264	3-948-339-01	SCREW, TAPPING	
254	A-7073-502-A	PD-92(SP8) BOARD, COMPLETE (TRV65E)		265	X-3948-169-1	HINGE ASSY	
254	A-7073-452-A	PD-92(SP6) BOARD, COMPLETE (TRV23E/TRV69E)		266	3-987-623-01	CLAMP, HARNESS	
254	A-7073-460-A	PD-92(CP6) BOARD, COMPLETE (TRV3E/TRV13E)		267	3-987-624-01	COVER (C) (870), HINGE (TRV65E/TRV69E)	
255	3-713-786-21	SCREW (M2X3)		267	3-987-624-11	COVER (C) (870), HINGE (TRV23E)	
256	3-987-584-01	HOLDER (870), LCD (TRV23E:E1,HK,AUS,CN/TRV65E/TRV69E)		267	3-987-624-21	COVER (C) (870), HINGE (TRV3E/TRV13E)	
256	3-987-584-11	HOLDER (870), LCD (TRV3E/TRV13E/TRV23E:E2)		268	3-987-585-61	SHEET, MODEL NAME (TRV23E)	
257	3-948-339-61	TAPPING		268	3-987-585-71	SHEET, MODEL NAME (TRV13E)	
258	1-668-963-41	FP-642 FLEXIBLE BOARD		268	3-987-585-81	SHEET, MODEL NAME (TRV65E)	
259	1-958-379-11	HARNESS (DP-70)		268	3-987-585-91	SHEET, MODEL NAME (TRV3E/TRV69E)	
260	A-7093-473-A	INDICATION LCD BLOCK ASSY (TRV3E/TRV13E)		LCD901	1-803-035-21	INDICATOR MODULE, LIQUID CRYST (TRV23E)	
260	A-7093-509-A	INDICATION LCD BLOCK ASSY (TRV23E)		LCD901	1-803-036-21	INDICATOR MODULE, LIQUID CRYST (TRV65E/TRV69E)	
260	A-7093-486-A	INDICATION LCD BLOCK ASSY (TRV65E/TRV69E)		LCD901	1-803-040-11	INDICATOR MODULE, LIQUID CRYST (TRV3E/TRV13E)	
261	X-3948-158-1	CABINET (C) (870) ASSY, P (TRV65E)		$\triangle$ ND801	1-517-751-11	TUBE, FLUORESCENT,COLD CATHODE (TRV3E/TRV13E)	
261	X-3948-392-1	CABINET (C) (846) ASSY, P (TRV3E/TRV13E)		$\triangle$ ND801	1-517-752-11	TUBE, FLUORESCENT,COLD CATHODE (TRV23E)	
261	X-3948-160-1	CABINET (C) (872) ASSY, P (TRV23E)		$\triangle$ ND801	1-517-752-21	TUBE, FLUORESCENT,COLD CATHODE (TRV65E/TRV69E)	
261	X-3948-161-1	CABINET (C) (878D) ASSY, P (TRV69E)		$\triangle$ ND802	1-517-759-11	LIGHT, BACK	

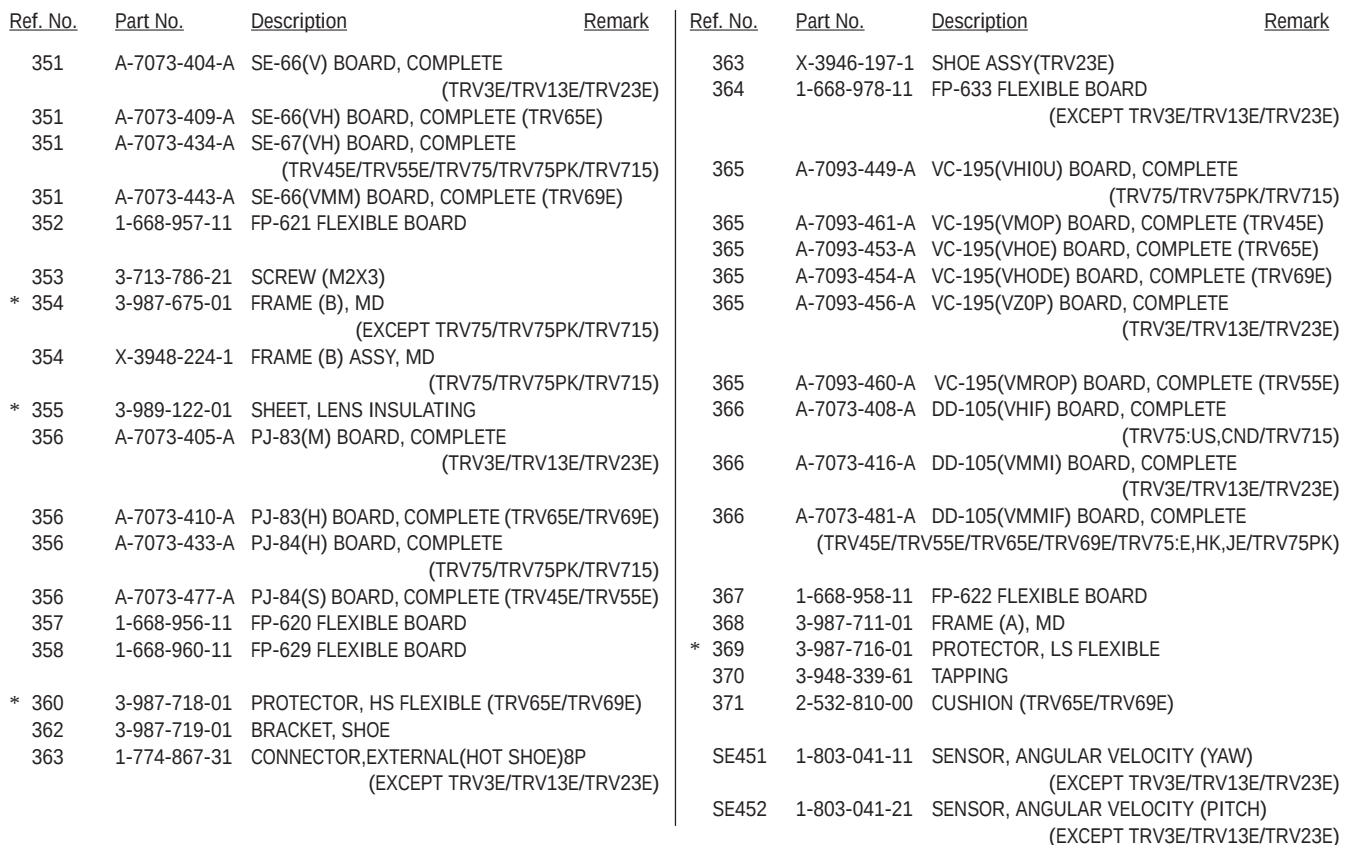
6-1-7. EVF BLOCK ASSEMBLY (B/W EVF)



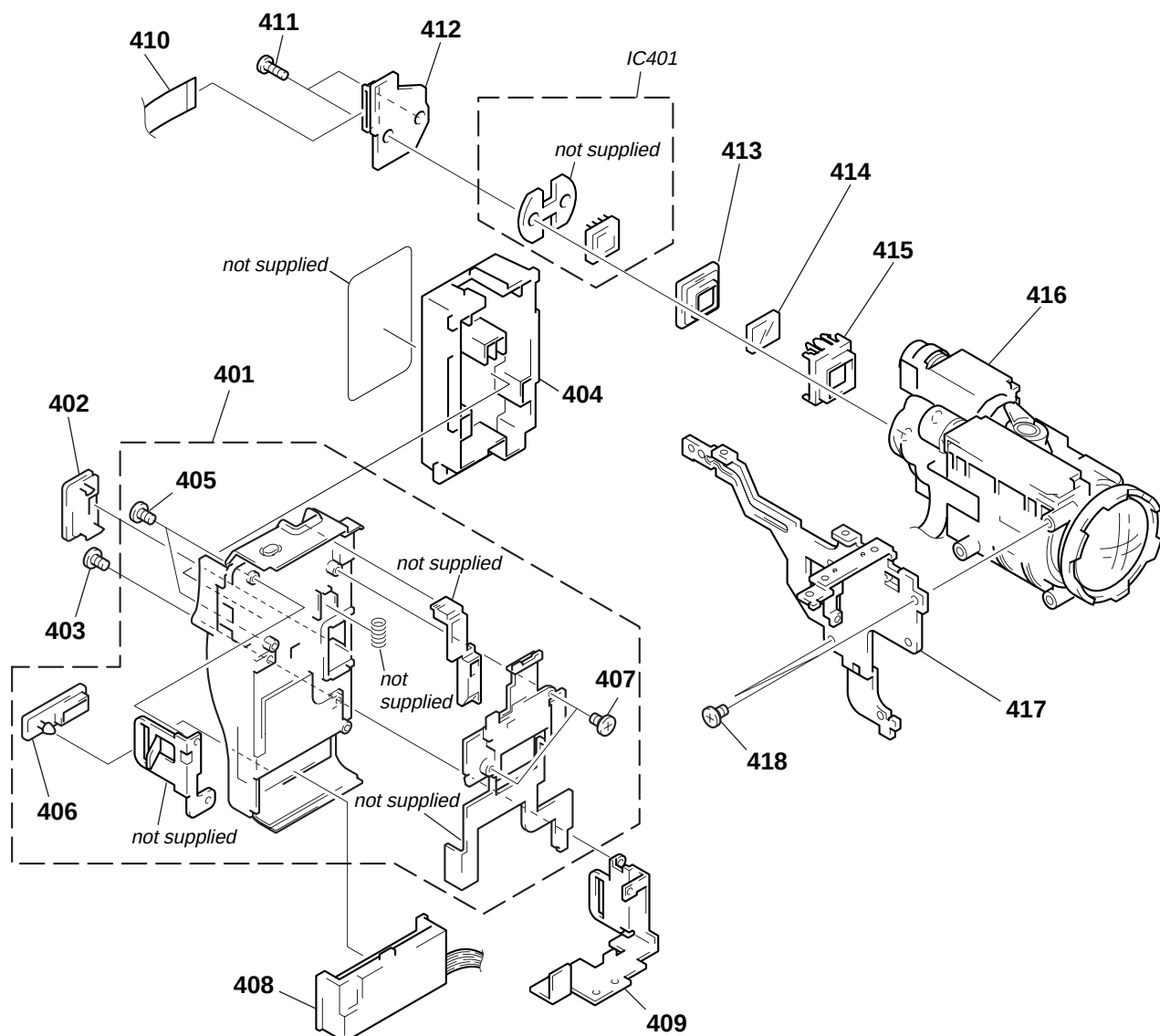
The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
301	X-3944-966-1	FINDER ASSY		310	X-3948-279-1	HOLDER (878) ASSY, CRT	
302	3-963-391-01	EYE CUP		* 311	3-987-844-01	SHEET, VF (B/W) ELECTROSTATIC	
303	X-3948-278-1	CABINET (REAR) (878) B ASSY (TRV3E/TRV13E/TRV23E/TRV65E/TRV69E)		312	X-3948-277-1	CABINET (FRONT) (878) B ASSY (TRV65E)	
303	X-3948-281-1	CABINET (REAR) (887) B ASSY (TRV45E:AUS,E2/TRV55E/TRV75:US,CND/TRV75PK)		312	X-3948-280-1	CABINET (FRONT) (887) B ASSY (TRV45E:AUS,E2/TRV55E/TRV75:US,CND/TRV75PK)	
303	X-3948-281-2	CABINET (REAR) (887) B ASSY (TRV45E:E1,CN,HK/TRV55E/TRV75:E,JE/TRV715)		312	X-3948-280-2	CABINET (FRONT) (887) B ASSY (TRV45E:E1,CN,HK/TRV75:E,JE)	
304	3-968-729-61	SCREW (M2X3), LOCK ACE, P2		312	X-3948-364-1	CABINET (FRONT) (845) B ASSY (TRV3E/TRV13E)	
305	3-975-898-01	SCREW (T), F LOCK		312	X-3948-363-1	CABINET (FRONT) (872) B ASSY (TRV23ETRV69E)	
306	3-977-292-01	MASK, CRT		312	X-3948-366-1	CABINET (FRONT) (887D) B ASSY (TRV715)	
307	3-725-130-01	COVER, HINGE VOLTAGE		313	3-948-339-61	TAPPING	
308	1-783-241-11	CABLE, FLEXIBLE FLAT (FFC-235)		* 314	3-987-843-01	SHEET, VF FLEXIBLE LOCK	
309	A-7066-774-A	VF-99(863) BOARD, COMPLETE (EXCEPT TRV75/TRV75PK/TRV715)		▲ V901	1-452-673-31	CRT ASSY (M01KXX90WB)	
309	A-7066-792-A	VF-99(VHL4) BOARD, COMPLETE (TRV75/TRV75PK/TRV715)					



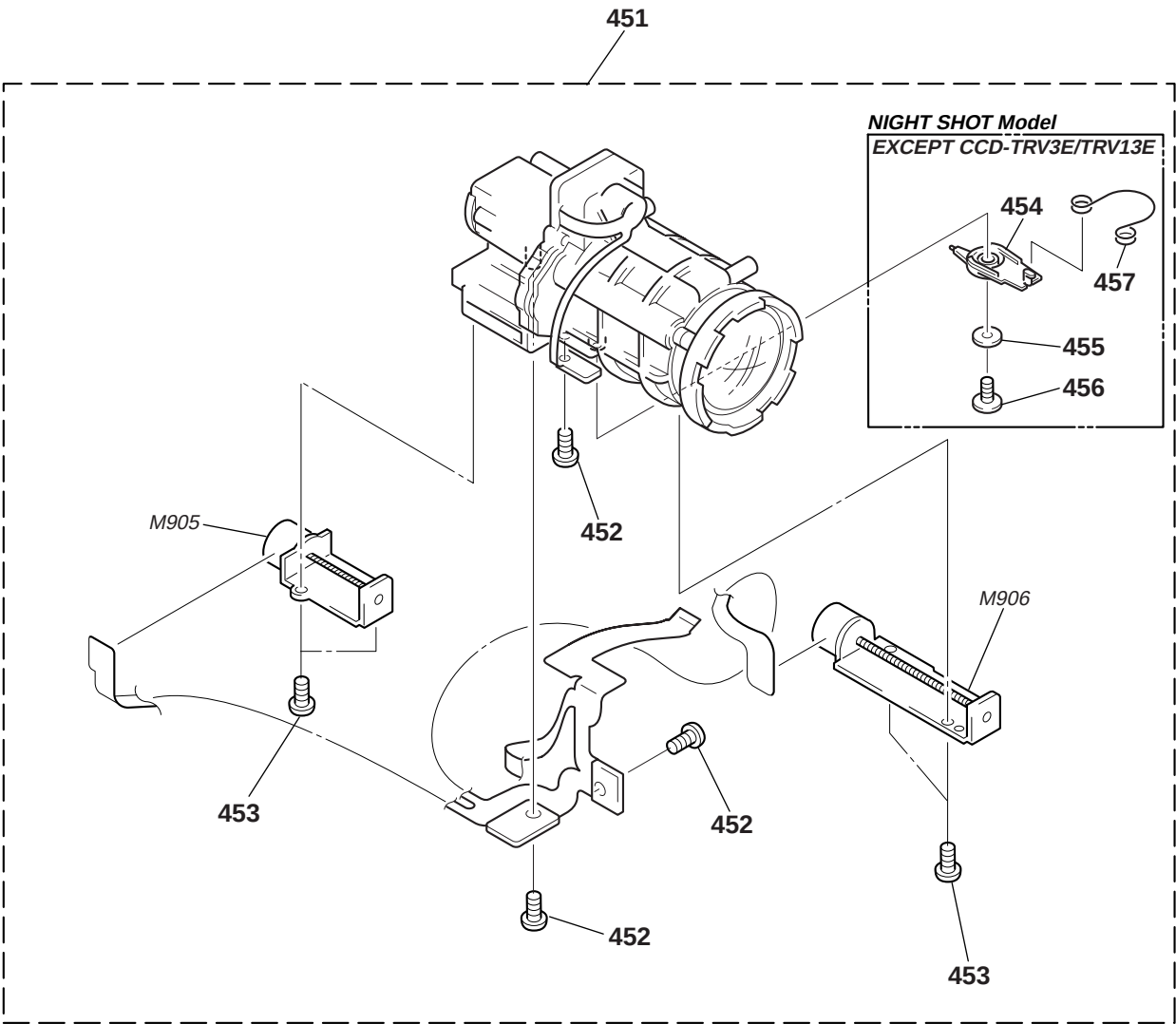
6-1-9. BATTERY PANEL AND CCD BLOCK ASSEMBLY



Be sure to read "Note on the CCD Imager replacement" on page 4-9 when changing the CCD imager.

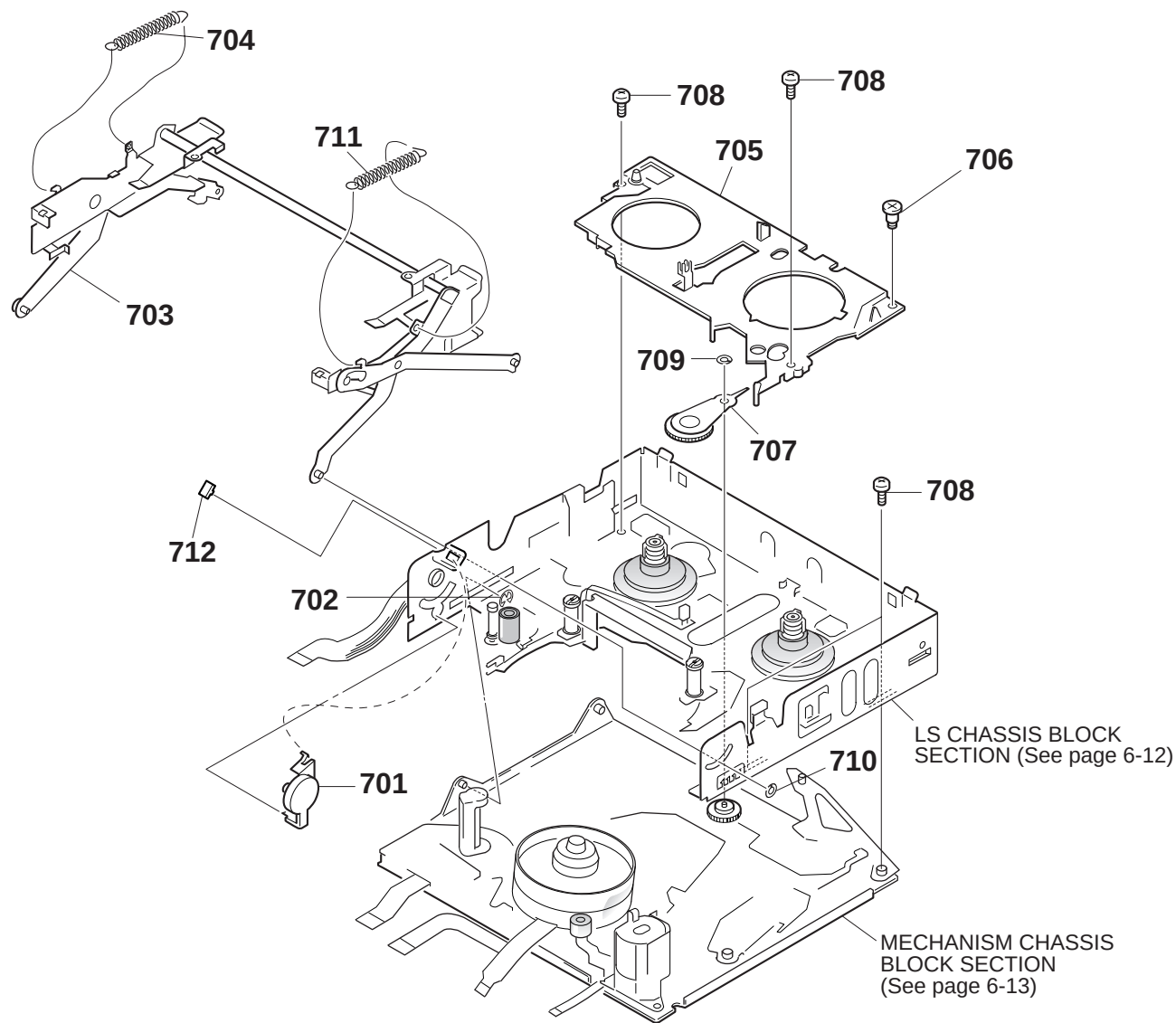
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
401	X-3948-171-1	PANEL ASSY, BATTERY (TRV3E/TRV13E/TRV23E/TRV65E/TRV69E)		413	3-953-817-01	RUBBER (F), SEAL (TRV3E/TRV13E/TRV23E)	
401	X-3948-172-1	PANEL ASSY, BATTERY (TRV45E/TRV75/TRV75PK/TRV715)		413	3-968-054-11	RUBBER (FM), SHIELD (EXCEPT TRV3E/TRV13E/TRV23E)	
401	X-3948-173-1	PANEL ASSY, BATTER (TRV55E)		414	1-758-084-21	FILTER BLOCK, OPTICAL (EXCEPT TRV3E/TRV13E/TRV23E)	
402	3-975-752-01	LID (BT), CPC		414	1-758-133-21	FILTER BLOCK, OPTICAL (TRV3E/TRV13E/TRV23E)	
403	3-962-826-01	SCREW (2X4)		415	3-978-981-11	ADAPTOR (FK), CCD FITTING	
* 404	3-987-683-01	LID, BATTERY		416	8-848-722-01	DEVICE, LENS LSV-600A (SOC) (EXCEPT TRV3E/TRV13E)	
405	3-968-729-61	SCREW (M2X3), LOCK ACE, P2		416	8-848-724-01	DEVICE, LENS LSV-601A (SOC) (TRV3E/TRV13E)	
406	3-987-656-01	LID, JACK		417	3-987-712-01	FRAME, LENS	
407	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2		418	3-948-339-61	TAPPING	
408	1-694-384-11	TERMINAL BOARD, BATTERY		IC401	A-7030-865-A	CCD BLOCK ASSY (209 SERVIC) (CCD IMAGER) (TRV75/TRV75PK/TRV715)	
409	3-987-679-01	SHEET METAL (LOWER), STRAP		IC401	A-7030-871-A	CCD BLOCK ASSY (211 SERVIC) (CCD IMAGER) (TRV45E/TRV55E/TRV65E/TRV69E)	
410	1-668-959-11	FP-623 FLEXIBLE BOARD		IC401	A-7030-874-A	CCD BLOCK ASSY (207 SERVIC) (CCD IMAGER) (TRV3E/TRV13E/TRV23E)	
411	3-318-203-11	SCREW (B1.7X6), TAPPING					
412	A-7073-407-A	CD-197 BOARD, COMPLETE (TRV3E/TRV13E/TRV23E/TRV65E/TRV69E)					
412	A-7073-435-A	CD-198 BOARD, COMPLETE (TRV45E/TRV55E/TRV75/TRV75PK/TRV715)					

6-1-10. DEVICE LENS (LSV-600A/LSV-601A)



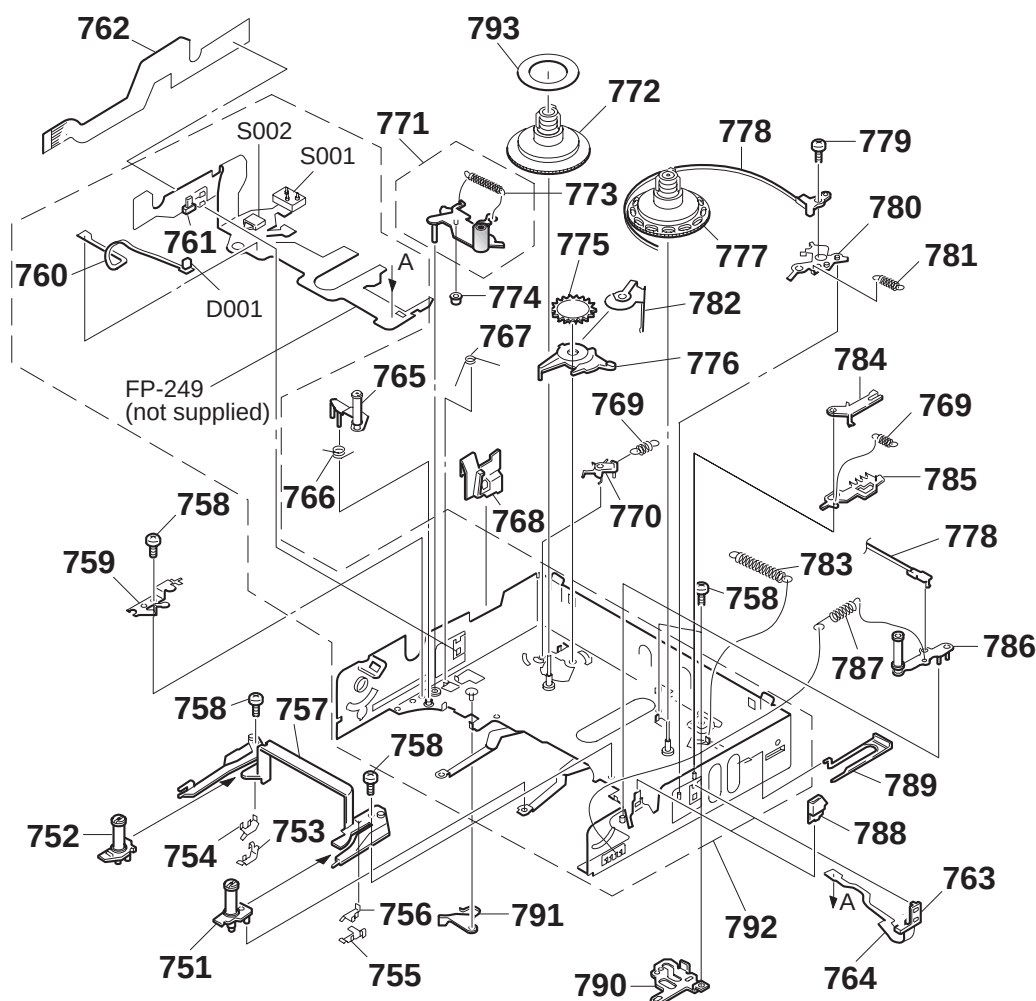
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
451	8-848-722-01	DEVICE, LENS LSV-600A (SOC)(NIGHT SHOT) (EXCEPT TRV3E/TRV13E)		455	2-327-405-01	WASHER	
451	8-848-724-01	DEVICE, LENS LSV-601A (SOC) (TRV3E/TRV13E)		456	3-623-756-21	SCREW (B1.7x5), P	
452	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2		457	3-979-037-11	SPRING, RETURN	
453	3-713-791-41	SCREW (M1.7X5), TAPPING, PS		M905	1-763-047-11	MOTOR, FOCUS STEPPING	
454	3-979-029-01	LEVER, IR		M906	1-763-046-11	MOTOR, ZOOM STEPPING	

6-1-11. CASSETTE COMPARTMENT ASSEMBLY



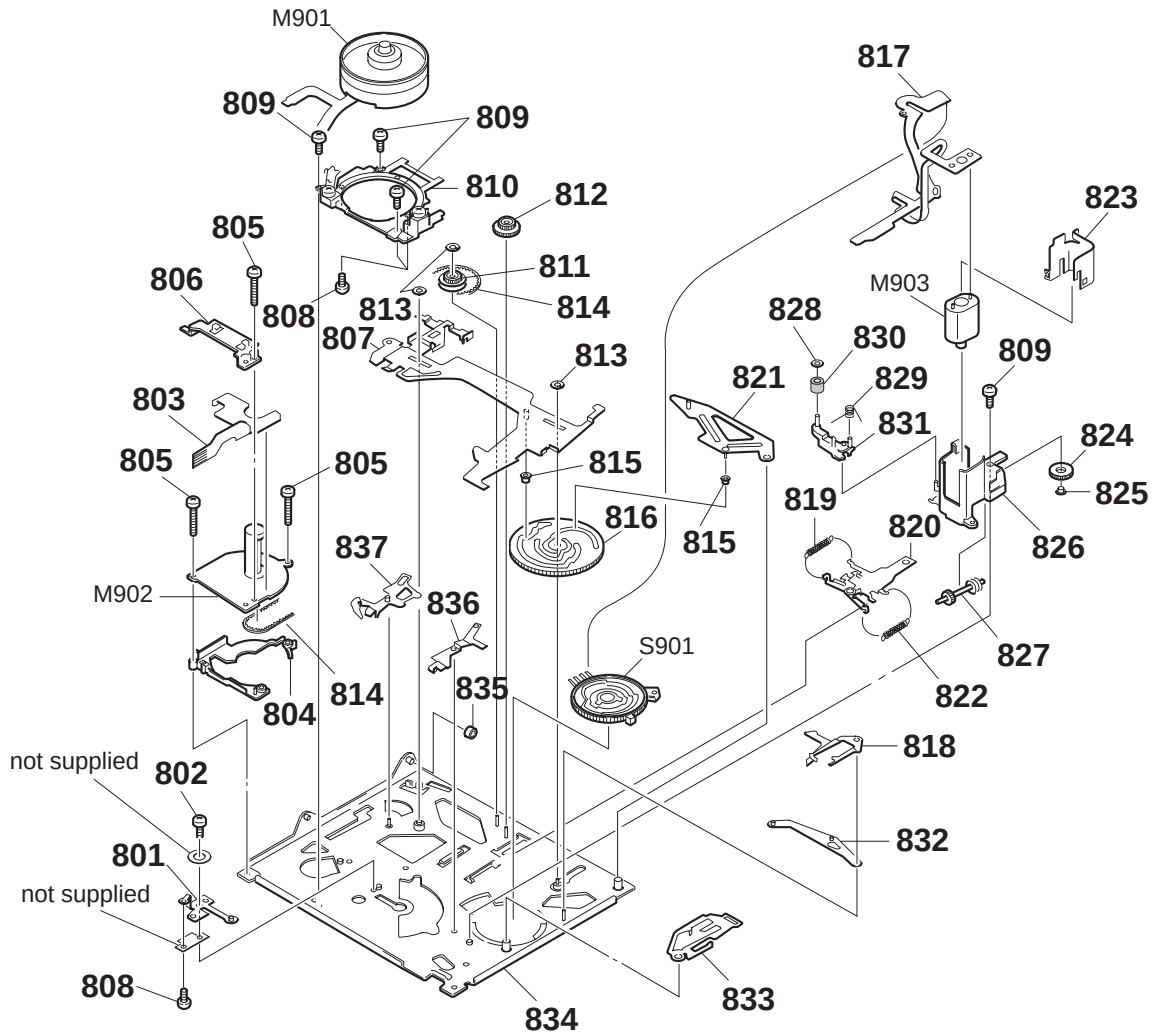
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
701	A-7040-421-A	DAMPER ASSY		707	X-3945-399-1	GEAR ASSY, GOOSENECK	
702	7-624-102-04	STOP RING 1.5, TYPE -E		708	3-947-503-01	SCREW (M1.4X2.5)	
703	X-3945-400-X	CASSETTE COMPARTMENT ASSY		709	3-331-007-21	WASHER	
704	3-965-587-03	SPRING, TENSION		710	3-727-176-01	WASHER, STOPPER	
705	3-965-584-08	RETAINER, GOOSENECK		711	3-973-268-01	SPRING, TENSION	
706	3-976-055-01	SCREW (M1.4X1)		712	3-971-076-01	FASTENER, D	

6-1-12. LS CHASSIS ASSEMBLY



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
751	A-7040-419-A	BASE (S) BLOCK ASSY, GUIDE		775	3-965-563-01	GEAR, T SOFT	
752	A-7040-418-B	BASE (T) BLOCK ASSY, GUIDE		776	3-965-565-01	CLAW, T SOFT	
753	3-965-559-01	STOPPER (T)		777	X-3945-397-1	DECK ASSY, REEL, S	
754	3-965-557-01	STOPPER (T), GB		778	X-3945-396-1	BAND ASSY, TENSION REGULATOR	
755	3-965-558-01	STOPPER (S)		779	3-945-756-01	SCREW (M1.4X3)	
756	3-965-556-01	STOPPER (S), GB		780	3-965-583-01	ARM, RVS	
757	3-965-553-01	RAIL, GUIDE		781	3-965-580-01	SPRING, TENSION	
758	3-947-503-01	SCREW (M1.4X2.5)		782	3-966-384-01	SPRING, T SOFT	
759	3-965-573-01	RETAINER, TG4		783	3-965-578-01	SPRING, TENSION COIL	
760	1-658-213-11	FP-355 FLEXIBLE BOARD		784	3-965-560-01	RATCHET, S	
761	3-965-552-01	HOLDER (T), SENSOR		785	3-965-561-01	PLATE, RELEASE, S RATCHET	
762	1-657-786-13	FP-221 FLEXIBLE BOARD		786	X-3945-395-1	ARM ASSY, TG1	
763	3-965-551-01	HOLDER (S), SENSOR		787	3-965-576-01	SPRING (TG1), TENSION	
764	1-658-214-11	FP-356 FLEXIBLE BOARD		788	3-965-567-01	LID OPEN	
765	A-7040-417-A	ARM BLOCK ASSY, TG4		789	3-965-566-01	COVER, LS GUIDE	
766	3-965-574-01	SPRING, TORSION		* 790	3-965-577-01	PLATE, CAM, LS	
767	3-965-575-01	SPRING (PINCH), TORSION		791	3-965-569-01	ARM, EJ	
768	3-965-568-01	GUIDE, LOCK		792	A-7040-427-A	CHASSIS (S1) ASSY, LS	
769	3-965-562-01	SPRING (RATCHET), TENSION		* 793	3-972-838-01	SPACER, REEL	
770	3-965-581-03	RATCHET, T		D001	8-719-988-42	DIODE GL453	
771	X-3945-394-1	ARM ASSY, PINCH		S001	1-692-614-11	SWITCH, PUSH (3 KEY) (Hi8 MP, ME/MP, REC PROOF)	
772	X-3945-398-2	DECK ASSY, REEL, T		S002	1-572-688-11	SWITCH, PUSH (1 KEY)(C.C. LOCK)	
773	3-965-648-01	SPRING (PINCH), TENSION					
774	3-965-579-01	ROLLER, PINCH PRESS					

6-1-13. MECHANISM CHASSIS ASSEMBLY



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
801	X-3947-343-1	GROUND (IM) ASSY, SHAFT		823	3-965-542-01	SHIELD, MOTOR	
802	3-965-550-02	SCREW (M1.7X1.6)		824	3-965-539-01	GEAR (A)	
803	1-657-785-11	FP-248 FLEXIBLE BOARD		825	3-965-538-01	SLEEVE, MOTOR HOLDER	
804	3-965-545-01	SPACER, CAPSTAN					
805	3-965-549-01	SCREW (M1.4 X 6.5)		826	3-965-540-01	HOLDER, MOTOR	
				827	3-965-541-01	SHAFT, WORM	
806	3-966-349-01	HOLDER, FLEXIBLE		828	3-321-393-01	WASHER, STOPPER	
807	3-971-644-01	SLIDER (2), M		829	3-965-724-01	SPRING, TORSION	
808	3-971-939-01	SCREW (M1.4)		830	A-7040-423-A	ROLLER BLOCK ASSY, HC	
809	3-947-503-01	SCREW (M1.4X2.5)					
810	A-7040-416-A	BASE BLOCK ASSY, DRUM		831	X-3945-407-1	ARM ASSY, HC ROLLER	
				832	3-965-531-01	ARM, GL	
811	3-965-527-01	GEAR, CHANGE		833	3-965-530-01	PLATE (2), REGULATOR, TENSION	
812	3-965-544-01	GEAR, RELAY		834	X-3947-915-2	CHASSIS ASSY, MECHANICAL	
813	3-331-007-21	WASHER		835	3-965-526-02	ROLLER, LS GUIDE	
814	3-965-546-01	BELT, TIMING					
815	3-965-533-01	ROLLER, LS		836	3-965-547-01	ARM, HC DRIVING	
				837	3-965-534-01	PLATE, PRESS, PINCH	
816	3-965-528-01	GEAR, CAM		M901	A-7048-851-A	DRUM ASSY (DGH-0D5A-R)(PAL)	
817	1-657-784-11	FP-220 FLEXIBLE BOARD				(EXCEPT TRV75/TRV75PK/TRV715)	
818	3-965-529-01	PLATE, REGULATOR (LIMITER ARM T), COIL		M901	A-7048-842-A	DRUM ASSY (DGH-0E1A-R)(NTSC)(5HEAD)	
819	3-965-536-01	SPRING (LIMITER ARM T), COIL				(TRV75/TRV75PK/TRV715)	
820	X-3945-388-1	SLIDER ASSY, GL					
				M902	8-835-531-32	CAPSTAN ASSY	
821	3-965-532-01	ARM, LS		M903	X-3945-401-1	MOTOR ASSY, DC (LOADING)	
822	3-965-535-01	SPRING (LIMITER ARM S), COIL		S901	1-762-436-15	SWITCH, ROTARY (ENCODER)	

6-2. ELECTRICAL PARTS LIST

Note:

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F : nonflammable

- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA...: μ PA..., uPB...: μ PB...,
uPC...: μ PC..., uPD...: μ PD...
- CAPACITORS
uF : μ F
- COILS
uH : μ H
- Abbreviation
CND : Canadian Model
EE : East European Model
NE : North European Model
RU : Russian Model
HK : Hong Kong Model
AUS : Australian Model
JE : Tourist Model
CN : Chinese Model

Ref. No.	Part No.	Description	Remark
	A-7073-407-A	CD-197 BOARD, COMPLETE (TRV3E/TRV13E/TRV23E/TRV65E/TRV69E) ***** (Ref. No. 4000 series)	
	A-7073-435-A	CD-198 BOARD, COMPLETE (TRV45E/TRV55E/TRV75/TRV75PK/TRV715) ***** (Ref. No. 9000 series) (IC401 is not including to the mounted board)	
		< CAPACITOR >	
C401	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C405	1-135-210-11	TANTALUM CHIP 4.7uF	20% 10V
C406	1-135-214-21	TANTAL. CHIP 4.7uF	20% 20V
		< CONNECTOR >	
CN401	1-766-346-21	CONNECTOR, FFC/FPC 16P	
		< IC >	
IC401	A-7030-865-A	CCD BLOCK ASSY (209 SERVICE)(CCD IMAGER) (TRV75/TRV75PK/TRV715)	
IC401	A-7030-871-A	CCD BLOCK ASSY (211 SERVICE)(CCD IMAGER) (TRV45E/TRV55E/TRV65E/TRV69E)	
IC401	A-7030-874-A	CCD BLOCK ASSY (207 SERVICE)(CCD IMAGER) (TRV3E/TRV13E/TRV23E)	
		< COIL >	
L401	1-414-757-11	INDUCTOR 100uH	
		< TRANSISTOR >	
Q402	8-729-117-73	TRANSISTOR 2SC4178-F13F14-T1	
		< RESISTOR >	
R404	1-216-829-11	METAL CHIP 4.7K	5% 1/16W
R405	1-216-809-11	METAL CHIP 100	5% 1/16W

Ref. No.	Part No.	Description	Remark
	A-7073-403-A	CF-50(E7V) BOARD, COMPLETE (TRV3E/TRV13E) *****	
	A-7073-412-A	CF-50(ESV) BOARD, COMPLETE (TRV23E/TRV65E/TRV69E) ***** (Ref. No. 4000 series)	
	A-7073-431-A	CF-51(VH) BOARD, COMPLETE (TRV45E/TRV75/TRV75PK/TRV715) *****	
	A-7073-479-A	CF-51(VMR) BOARD, COMPLETE (TRV55E) ***** (Ref. No. 9000 series)	
		< BATTERY HOLDER >	
BH001	1-550-104-11	HOLDER, BATTERY	
		< CONNECTOR >	
CN001	1-778-637-21	CONNECTOR, FFC/FPC (ZIF) 50P	
CN002	1-774-765-11	CONNECTOR, FFC/FPC 8P (EXCEPT TRV3E/TRV13E/TRV23E)	
CN003	1-580-055-21	PIN, CONNECTOR 2P	
CN005	1-779-064-11	PIN, CONNECTOR (PC BOARD) 12P	
CN006	1-778-508-21	PIN, CONNECTOR (PC BOARD) 6P	
* CN008	1-778-283-11	CONNECTOR, FFC/FPC 4P	
		< DIODE >	
D001	8-719-059-57	DIODE MAZJ082DFLSO	
D001	8-719-064-61	DIODE 01BZA8.2(TE85L)	
D005	8-719-420-14	DIODE MA8082-TX	
D006	8-719-420-14	DIODE MA8082-TX	
D008	8-719-404-49	DIODE MA111-TX	
		< TRANSISTOR >	
Q001	8-729-402-42	TRANSISTOR UN5213-TX	
Q003	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX (EXCEPT TRV3E/TRV13E/TRV23E)	
Q005	8-729-230-72	TRANSISTOR 2SA1362-YG-EL (EXCEPT TRV3E/TRV13E/TRV23E)	
		< RESISTOR >	
R003	1-216-833-11	METAL CHIP 10K	5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)
R005	1-216-833-11	METAL CHIP 10K	5% 1/16W
R006	1-216-833-11	METAL CHIP 10K	5% 1/16W
R007	1-216-833-11	METAL CHIP 10K	5% 1/16W
R008	1-216-833-11	METAL CHIP 10K	5% 1/16W

Be sure to read "Note on the CCD Imager replacement" on page 4-9 when changing the CCD imager.

Ref. No.	Part No.	Description	Remark		
R009	1-216-833-11	METAL CHIP	10K	5%	1/16W
R013	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R015	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R016	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R019	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R020	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R022	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R023	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R025	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R026	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R029	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R031	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R032	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R036	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R038	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R039	1-216-838-11	METAL CHIP	27K	5%	1/16W
R041	1-216-838-11	METAL CHIP	27K	5%	1/16W
R049	1-216-849-11	METAL CHIP	220K	5%	1/16W
			(EXCEPT TRV3E/TRV13E/TRV23E)		
R050	1-216-853-11	METAL CHIP	470K	5%	1/16W
			(EXCEPT TRV3E/TRV13E/TRV23E)		
R051	1-216-837-11	METAL CHIP	22K	5%	1/16W
			(EXCEPT TRV3E/TRV13E/TRV23E)		
R052	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
			(EXCEPT TRV3E/TRV13E/TRV23E)		
R053	1-216-864-11	METAL CHIP	0	5%	1/16W
			(TRV3E/TRV13E)		
		< SWITCH >			
S001	1-762-851-21	SWITCH, KEY BOARD (DIGITAL EFFECT)			
		(TRV55E)			
S012	1-771-029-31	SWITCH, TACTILE (EXPOSURE)			
		(EXCEPT TRV3E/TRV13E)			
S003	1-762-851-21	SWITCH, KEY BOARD (DATE)			
S004	1-771-029-21	SWITCH, TACTILE (PROGRAM AE)			
S006	1-762-851-21	SWITCH, KEY BOARD (PICTURE EFFECT)			
S008	1-762-851-21	SWITCH, KEY BOARD (COUNTER RESET)			
S010	1-762-851-21	SWITCH, KEY BOARD (MENU)			
S013	1-762-851-21	SWITCH, KEY BOARD (END SEARCH)			
S015	1-771-025-21	SWITCH, ROTARY (ENCODER)(SEL/PUSH ESEC)			
S017	1-771-029-21	SWITCH, TACTILE (BACK LIGHT)			
S018	1-762-851-21	SWITCH, KEY BOARD (TITLE)			
S021	1-762-851-21	SWITCH, KEY BOARD (TIME)			
S022	1-762-851-21	SWITCH, KEY BOARD (DISPLAY)			
S024	1-762-648-21	SWITCH, SLIDE (START/STOP MODE)			
S027	1-771-029-31	SWITCH, TACTILE (FADER)			
		(TRV45E/TRV55E/TRV75/TRV75PK/TRV715)			
A-7073-408-A	DD-105 (VHIF) BOARD, COMPLETE				
		(TRV75:US,CND/TRV715)			

A-7073-416-A	DD-105(VMMI) BOARD, COMPLETE				
		(TRV3E/TRV13E/TRV23E)			

A-7073-481-A	DD-105(VHI) BOARD, COMPLETE				
		(TRV45E/TRV55E/TRV65E/TRV69E/TRV75:E,JE/75PK)			

		(Ref. No. 2000 series)			

Ref. No.	Part No.	Description	Remark		
		< CAPACITOR >			
C801	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C802	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C803	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C804	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C805	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C806	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C807	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C808	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C809	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C810	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C811	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C812	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C813	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C814	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C815	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C816	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C817	1-113-991-11	TANTAL. CHIP	33uF	20%	16V
C819	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C820	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C821	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C822	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C823	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C824	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C825	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C826	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C827	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C828	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C829	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C830	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C831	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C832	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C833	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C834	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C836	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C837	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C838	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C840	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C841	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C843	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C844	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C846	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C847	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C848	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C849	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C850	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C851	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C852	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C853	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C855	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C856	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C857	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C860	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C861	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C862	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C863	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V

Ref. No.	Part No.	Description	Remark
C864	1-113-985-11	TANTAL. CHIP 10uF 20%	20V
C865	1-164-505-11	CERAMIC CHIP 2.2uF	16V
C866	1-164-505-11	CERAMIC CHIP 2.2uF	16V
C868	1-135-214-21	TANTAL. CHIP 4.7uF 20%	20V
C869	1-164-505-11	CERAMIC CHIP 2.2uF	16V
C871	1-135-157-21	TANTALUM CHIP 10uF 20%	6.3V
C872	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V
C873	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V
C875	1-164-489-11	CERAMIC CHIP 0.22uF 10%	16V
C876	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C877	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
< CONNECTOR >			
* CN801	1-580-756-21	PIN, CONNECTOR 7P	
CN931	1-691-520-11	CONNECTOR, BOARD TO BOARD 48P	
CN932	1-766-346-21	CONNECTOR, FFC/FPC 16P	
CN933	1-778-509-21	PIN, CONNECTOR (PC BOARD) 11P	
CN934	1-766-673-21	CONNECTOR, FFC/FPC 12P	
CN935	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P	
< DIODE >			
D801	8-719-067-36	DIODE MA3ZD1200LSO	
D802	8-719-067-36	DIODE MA3ZD1200LSO	
D803	8-719-067-36	DIODE MA3ZD1200LSO	
D804	8-719-067-36	DIODE MA3ZD1200LSO	
D805	8-719-067-36	DIODE MA3ZD1200LSO	
D806	8-719-027-76	DIODE 1SS357-TPH3	
D807	8-719-067-36	DIODE MA3ZD1200LSO	
D809	8-719-027-77	DIODE MA796-TX	
D810	8-719-027-76	DIODE 1SS357-TPH3	
D812	8-719-027-76	DIODE 1SS357-TPH3	
D813	8-719-420-14	DIODE MA8082-TX	
D814	8-719-420-14	DIODE MA8082-TX	
D815	8-719-420-14	DIODE MA8082-TX	
D816	8-719-027-76	DIODE 1SS357-TPH3	
D817	8-719-421-27	DIODE MA728-TX	
D818	8-719-027-76	DIODE 1SS357-TPH3	
D819	8-719-404-49	DIODE MA111-TX	
(EXCEPT TRV3E/TRV13E/TRV23E)			
D932	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D932	8-719-045-87	DIODE MA4Z082WA-(K8).SO	
D933	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D933	8-719-045-87	DIODE MA4Z082WA-(K8).SO	
D934	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D934	8-719-045-87	DIODE MA4Z082WA-(K8).SO	
D935	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D935	8-719-045-87	DIODE MA4Z082WA-(K8).SO	
D936	8-719-062-16	DIODE 01ZA8.2(TPL3)	
D936	8-719-045-87	DIODE MA4Z082WA-(K8).SO	
D938	8-719-420-14	DIODE MA8082-TX	
< FERRITE BEAD >			
FB931	1-414-228-11	INDUCTOR CHIP 0UH	
FB932	1-414-228-11	INDUCTOR CHIP 0UH	
FB933	1-414-228-11	INDUCTOR CHIP 0UH	
FB934	1-414-228-11	INDUCTOR CHIP 0UH	

Ref. No.	Part No.	Description	Remark
< IC >			
IC801	8-759-384-78	IC SN104241PM-TEB	
IC802	8-759-492-30	IC MB3817PFV-G-BND	
< COIL >			
L804	1-412-056-11	INDUCTOR CHIP 4.7uH	
L805	1-424-674-11	INDUCTOR 0uH	
L806	1-409-532-41	INDUCTOR 0uH	
L806	1-424-675-11	INDUCTOR 0uH	
L807	1-424-674-11	INDUCTOR 0uH	
L808	1-424-674-11	INDUCTOR 0uH	
L809	1-424-674-11	INDUCTOR 0uH	
L810	1-414-396-21	INDUCTOR 4.7uH	
L811	1-414-396-21	INDUCTOR 4.7uH	
L812	1-414-396-21	INDUCTOR 4.7uH	
L813	1-414-396-21	INDUCTOR 4.7uH	
L814	1-414-396-21	INDUCTOR 4.7uH	
L815	1-414-396-21	INDUCTOR 4.7uH	
L817	1-414-396-21	INDUCTOR 4.7uH	
L818	1-414-396-21	INDUCTOR 4.7uH	
L819	1-414-400-11	INDUCTOR 22uH	
L820	1-424-674-11	INDUCTOR 0uH	
< LINE FILTER >			
LF801	1-411-957-11	FILTER, COMMON MODE	
< IC LINK >			
△ PS801	1-533-760-21	FUSE (SMD) 1.4A (TRV75:US,CND/TRV715)	
△ PS801	1-533-761-21	LINK, IC (SMD) 1.4A	
(EXCEPT TRV75:US,CND/TRV715)			
△ PS802	1-533-760-21	FUSE (SMD) 1.4A (TRV75:US,CND/TRV715)	
△ PS802	1-533-761-21	LINK, IC (SMD) 1.4A	
(EXCEPT TRV75:US,CND/TRV715)			
△ PS803	1-533-760-21	FUSE (SMD) 1.4A (TRV75:US,CND/TRV715)	
△ PS803	1-533-761-21	LINK, IC (SMD) 1.4A	
(EXCEPT TRV75:US,CND/TRV715)			
△ PS804	1-533-760-21	FUSE (SMD) 1.4A (TRV75:US,CND/TRV715)	
△ PS804	1-533-761-21	LINK, IC (SMD) 1.4A	
(EXCEPT TRV75:US,CND/TRV715)			
△ PS805	1-533-760-21	FUSE (SMD) 1.4A (TRV75:US,CND/TRV715)	
△ PS805	1-533-761-21	LINK, IC (SMD) 1.4A	
(EXCEPT TRV75:US,CND/TRV715)			
△ PS806	1-533-760-21	FUSE (SMD) 1.4A (TRV75:US,CND/TRV715)	
△ PS806	1-533-761-21	LINK, IC (SMD) 1.4A	
(TRV45E/TRV55E/TRV65E/TRV69E/TRV75:E,JE/75PK)			
< TRANSISTOR >			
Q801	8-729-024-48	TRANSISTOR 2SK1830-TE85L	
Q802	8-729-041-69	TRANSISTOR MMSF5P02HDR2	
Q803	8-729-804-41	TRANSISTOR 2SB1122-ST-TD	
Q804	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q805	8-729-024-48	TRANSISTOR 2SK1830-TE85L	
Q806	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q807	8-729-804-41	TRANSISTOR 2SB1122-ST-TD	
Q808	8-729-043-94	TRANSISTOR CPH3106-PM-TL	
Q809	8-729-043-94	TRANSISTOR CPH3106-PM-TL	
Q810	8-729-043-94	TRANSISTOR CPH3106-PM-TL	

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q812	8-729-041-24	TRANSISTOR NDS355AN		R818	1-216-813-11	METAL CHIP 220	5% 1/16W
Q813	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)		R819	1-218-887-11	RES,CHIP 47K	0.50% 1/16W
Q814	8-729-043-94	TRANSISTOR CPH3106-PM-TL		R820	1-216-845-11	METAL CHIP 100K	5% 1/16W
Q815	8-729-043-94	TRANSISTOR CPH3106-PM-TL					
Q817	8-729-041-24	TRANSISTOR NDS355AN		R821	1-218-879-11	RES,CHIP 22K	0.50% 1/16W
				R822	1-216-150-91	RES,CHIP 10	5% 1/8W
Q819	8-729-043-94	TRANSISTOR CPH3106-PM-TL		R824	1-216-837-11	METAL CHIP 22K	5% 1/16W
Q820	8-729-037-74	TRANSISTOR UN9213J-(K8).SO (EXCEPT TRV3E/TRV13E/TRV23E)		R825	1-218-879-11	RES,CHIP 22K	0.50% 1/16W
Q824	8-729-042-56	TRANSISTOR MGSF3455VT1 (EXCEPT TRV3E/TRV13E/TRV23E)		R826	1-216-821-11	METAL CHIP 1K	5% 1/16W
Q823	8-729-037-74	TRANSISTOR UN9213J-(K8).SO		R827	1-216-821-11	METAL CHIP 1K	5% 1/16W
Q826	8-729-037-74	TRANSISTOR UN9213J-(K8).SO		R828	1-216-831-11	METAL CHIP 6.8K	5% 1/16W
				R829	1-216-837-11	METAL CHIP 22K	5% 1/16W
Q827	8-729-037-61	TRANSISTOR RN2104F(TPL3)		R830	1-218-883-11	RES,CHIP 33K	0.50% 1/16W
Q828	8-729-037-74	TRANSISTOR UN9213J-(K8).SO		R831	1-216-841-11	METAL CHIP 47K	5% 1/16W
Q829	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)					
Q830	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)		R832	1-218-879-11	RES,CHIP 22K	0.50% 1/16W
Q831	8-729-041-23	TRANSISTOR NDS356AP		R833	1-216-839-11	METAL CHIP 33K	5% 1/16W
				R834	1-218-883-11	RES,CHIP 33K	0.50% 1/16W
Q832	8-729-041-23	TRANSISTOR NDS356AP		R835	1-218-879-11	RES,CHIP 22K	0.50% 1/16W
Q833	8-729-041-23	TRANSISTOR NDS356AP		R836	1-216-837-11	METAL CHIP 22K	5% 1/16W
Q834	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)					
Q835	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)		R837	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
Q836	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)		R838	1-216-837-11	METAL CHIP 22K	5% 1/16W
				R839	1-216-837-11	METAL CHIP 22K	5% 1/16W
Q838	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)		R840	1-216-839-11	METAL CHIP 33K	5% 1/16W
Q839	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)		R841	1-216-834-11	METAL CHIP 12K	5% 1/16W
Q840	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)					
Q842	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)		R842	1-218-903-11	RES,CHIP 220K	0.50% 1/16W
Q843	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)		R843	1-218-895-11	RES,CHIP 100K	0.50% 1/16W
				R845	1-218-847-11	RES,CHIP 1K	0.50% 1/16W
Q844	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)		R849	1-216-837-11	METAL CHIP 22K	5% 1/16W
Q845	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)		R850	1-216-857-11	METAL CHIP 1M	5% 1/16W
Q847	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)					
Q848	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)		R852	1-218-851-11	RES,CHIP 1.5K	0.50% 1/16W
Q849	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)		R853	1-216-849-11	METAL CHIP 220K	5% 1/16W
				R854	1-218-887-11	RES,CHIP 47K	0.50% 1/16W
Q850	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)		R859	1-216-845-11	METAL CHIP 100K	5% 1/16W
Q851	8-729-041-69	TRANSISTOR MMSF5P02HDR2					(EXCEPT TRV3E/TRV13E/TRV23E)
Q852	8-729-017-61	TRANSISTOR 2SB1581-T1		R864	1-216-857-11	METAL CHIP 1M	5% 1/16W
Q853	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)					(EXCEPT TRV3E/TRV13E/TRV23E)
Q854	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)					
				R865	1-216-841-11	METAL CHIP 47K	5% 1/16W
Q855	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)		R866	1-216-837-11	METAL CHIP 22K	5% 1/16W
Q856	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)		R868	1-216-849-11	METAL CHIP 220K	5% 1/16W
Q932	8-729-037-74	TRANSISTOR UN9213J-(K8).SO		R870	1-216-857-11	METAL CHIP 1M	5% 1/16W
Q933	8-729-037-74	TRANSISTOR UN9213J-(K8).SO		R871	1-216-857-11	METAL CHIP 1M	5% 1/16W
Q934	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)					
		< RESISTOR >		R872	1-216-845-11	METAL CHIP 100K	5% 1/16W
R801	1-216-841-11	METAL CHIP 47K	5% 1/16W	R873	1-216-841-11	METAL CHIP 47K	5% 1/16W
R802	1-218-893-11	RES,CHIP 82K	0.50% 1/16W	R874	1-216-857-11	METAL CHIP 1M	5% 1/16W
R803	1-216-833-11	METAL CHIP 10K	5% 1/16W	R875	1-216-849-11	METAL CHIP 220K	5% 1/16W
R804	1-216-837-11	METAL CHIP 22K	5% 1/16W	R876	1-216-845-11	METAL CHIP 100K	5% 1/16W
R805	1-216-835-11	METAL CHIP 15K	5% 1/16W				
				R878	1-216-857-11	METAL CHIP 1M	5% 1/16W
R806	1-218-879-11	RES,CHIP 22K	0.50% 1/16W	R879	1-216-837-11	METAL CHIP 22K	5% 1/16W
R807	1-216-839-11	METAL CHIP 33K	5% 1/16W	R880	1-218-895-11	RES,CHIP 100K	0.50% 1/16W
R808	1-218-879-11	RES,CHIP 22K	0.50% 1/16W	R881	1-216-864-11	METAL CHIP 0	5% 1/16W
R809	1-216-813-11	METAL CHIP 220	5% 1/16W	R882	1-218-903-11	RES,CHIP 220K	0.50% 1/16W
R810	1-216-837-11	METAL CHIP 22K	5% 1/16W				
				R883	1-216-841-11	METAL CHIP 47K	5% 1/16W
R811	1-218-883-11	RES,CHIP 33K	0.50% 1/16W	R884	1-216-845-11	METAL CHIP 100K	5% 1/16W
R812	1-218-901-11	RES,CHIP 180K	0.50% 1/16W	R887	1-216-849-11	METAL CHIP 220K	5% 1/16W
R813	1-216-857-11	METAL CHIP 1M	5% 1/16W	R888	1-216-845-11	METAL CHIP 100K	5% 1/16W
R814	1-218-879-11	RES,CHIP 22K	0.50% 1/16W	R890	1-216-845-11	METAL CHIP 100K	5% 1/16W
R815	1-216-813-11	METAL CHIP 220	5% 1/16W				
				R891	1-218-895-11	RES,CHIP 100K	0.50% 1/16W
R816	1-218-879-11	RES,CHIP 22K	0.50% 1/16W	R892	1-218-903-11	RES,CHIP 220K	0.50% 1/16W
R817	1-218-879-11	RES,CHIP 22K	0.50% 1/16W	R893	1-216-835-11	METAL CHIP 15K	5% 1/16W
				R895	1-216-837-11	METAL CHIP 22K	5% 1/16W
				R896	1-218-903-11	RES,CHIP 220K	0.50% 1/16W

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Ref. No.	Part No.	Description	Remark
R897	1-218-891-11	RES,CHIP 68K 0.50% 1/16W	
R900	1-218-895-11	RES,CHIP 100K 0.50% 1/16W	
R901	1-218-887-11	RES,CHIP 47K 0.50% 1/16W	
R902	1-216-864-11	METAL CHIP 0 5% 1/16W	
R903	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R904	1-216-849-11	METAL CHIP 220K 5% 1/16W	
R905	1-218-901-11	RES,CHIP 180K 0.50% 1/16W	
R906	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R907	1-218-903-11	RES,CHIP 220K 0.50% 1/16W	
R908	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R910	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R911	1-218-883-11	RES,CHIP 33K 0.50% 1/16W	
R912	1-218-879-11	RES,CHIP 22K 0.50% 1/16W	
R913	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R914	1-216-811-11	METAL CHIP 150 5% 1/16W	
R915	1-218-911-11	RES,CHIP 470K 0.50% 1/16W	
R917	1-216-864-11	METAL CHIP 0 5% 1/16W	
R918	1-216-849-11	METAL CHIP 220K 5% 1/16W	
R921	1-216-296-91	SHORT 0	
R922	1-216-296-91	SHORT 0	
R923	1-216-296-91	SHORT 0	
R924	1-216-849-11	METAL CHIP 220K 5% 1/16W	
R932	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R933	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R934	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R935	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R936	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R937	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R938	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R939	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R940	1-216-819-11	METAL CHIP 680 5% 1/16W	
R941	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R942	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R943	1-216-029-00	METAL CHIP 150 5% 1/10W	
< TRANSFORMER >			
△ T801	1-429-565-21	TRANSFORMER, CONVERTER	
FP-249 BOARD, COMPLETE (Not supplied)			

(Ref. No. 10000 series)			
1-658-214-11	FP-356 FLEXIBLE BOARD		
3-965-551-01	HOLDER (S), SENSOR		
3-965-552-01	HOLDER (T), SENSOR		
< HALL ELEMENT >			
H001	8-719-033-37	ELEMENT, HALL HW-105C	
H002	8-719-033-37	ELEMENT, HALL HW-105C	
< TRANSISTOR >			
Q001	8-729-907-25	PHOTO TRANSISTOR PT4850F	
Q002	8-729-907-25	PHOTO TRANSISTOR PT4850F	
< SWITCH >			
S001	1-692-614-11	SWITCH, PUSH (3 KEY)	
		(Hi8 MP, ME/MP, REC PROOF)	
S002	1-572-688-11	SWITCH, PUSH (1 KEY)(C.C LOCK)	

Ref. No.	Part No.	Description	Remark
	1-658-213-11	FP-355 FLEXIBLE BOARD	

		(Ref. No. 10000 series)	
		< DIODE >	
D991	8-719-988-42	DIODE GL453	
A-7073-451-A MA-331(VMM0) BOARD, COMPLETE (TRV23E)			

A-7073-476-A MA-331(VZL) BOARD, COMPLETE			
(TRV3E/TRV13E)			

A-7073-501-A MA-331(VH0) BOARD, COMPLETE			
(TRV65E/TRV69E)			

(Ref. No. 4000 series)			
A-7073-430-A MA-312(VHI) BOARD, COMPLETE			
(TRV75/TRV75PK/TRV715)			

A-7073-478-A MA-312(VH0) BOARD, COMPLETE			
(TRV45E/TRV55E)			

(Ref. No. 9000 series)			
< CAPACITOR >			
C301	1-107-686-11	TANTAL. CHIP 4.7uF 20% 16V	
		(TRV75/TRV75PK/TRV715)	
C302	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
		(TRV75/TRV75PK/TRV715)	
C303	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
		(TRV75/TRV75PK/TRV715)	
C304	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
		(TRV75/TRV75PK/TRV715)	
C305	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
		(TRV75/TRV75PK/TRV715)	
C306	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
		(EXCEPT TRV3E/TRV13E)	
C321	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
		(TRV3E/TRV13E/TRV23E)	
C322	1-115-467-11	CERAMIC CHIP 0.22uF 10% 10V	
		(TRV3E/TRV13E/TRV23E)	
C323	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
		(TRV3E/TRV13E/TRV23E)	
C324	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	
C325	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C326	1-119-749-11	TANTAL. CHIP 33uF 20% 4V	
		(TRV3E/TRV13E/TRV23E)	
C327	1-110-563-11	CERAMIC CHIP 0.068uF 10% 16V	
		(TRV3E/TRV13E/TRV23E)	
C328	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
		(TRV3E/TRV13E/TRV23E)	
C329	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
		(TRV3E/TRV13E/TRV23E)	
C330	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	
C331	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
		(TRV3E/TRV13E/TRV23E)	

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Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C332	1-162-927-11	CERAMIC CHIP 100PF 5% 50V (TRV3E/TRV13E/TRV23E)		C365	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)	
C333	1-162-927-11	CERAMIC CHIP 100PF 5% 50V (EXCEPT TRV3E/TRV13E/TRV23E)		C366	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)	
C334	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V (EXCEPT TRV3E/TRV13E/TRV23E)		C367	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)	
C335	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)		C368	1-164-245-11	CERAMIC CHIP 0.015uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)	
C336	1-162-927-11	CERAMIC CHIP 100PF 5% 50V (EXCEPT TRV3E/TRV13E/TRV23E)		C369	1-162-962-11	CERAMIC CHIP 470PF 10% 50V (EXCEPT TRV3E/TRV13E/TRV23E)	
C337	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V (EXCEPT TRV3E/TRV13E/TRV23E)		C370	1-162-962-11	CERAMIC CHIP 470PF 10% 50V (EXCEPT TRV3E/TRV13E/TRV23E)	
C338	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (EXCEPT TRV3E/TRV13E/TRV23E)		C371	1-164-346-11	CERAMIC CHIP 1uF 16V (EXCEPT TRV3E/TRV13E/TRV23E)	
C339	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)		C372	1-164-346-11	CERAMIC CHIP 1uF 16V (EXCEPT TRV3E/TRV13E/TRV23E)	
C340	1-162-927-11	CERAMIC CHIP 100PF 5% 50V (EXCEPT TRV3E/TRV13E/TRV23E)		C373	1-164-156-11	CERAMIC CHIP 0.1uF 25V (EXCEPT TRV3E/TRV13E/TRV23E)	
C341	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V (EXCEPT TRV3E/TRV13E/TRV23E)		C375	1-164-346-11	CERAMIC CHIP 1uF 16V (EXCEPT TRV3E/TRV13E/TRV23E)	
C342	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)		C376	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C343	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)		C377	1-162-966-11	CERAMIC CHIP 0.0022uF 50V	
C344	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)		C378	1-165-128-11	CERAMIC CHIP 0.22uF 16V (EXCEPT TRV3E/TRV13E/TRV23E)	
C345	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V (EXCEPT TRV3E/TRV13E/TRV23E)		< CONNECTOR >			
C346	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)		* CN301	1-695-320-21	PIN, CONNECTOR (1.5MM)(SMD) 2P	
C348	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)		* CN302	1-695-320-21	PIN, CONNECTOR (1.5MM)(SMD) 2P (EXCEPT TRV3E/TRV13E/TRV23E)	
C349	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V (EXCEPT TRV3E/TRV13E/TRV23E)		CN303	1-779-334-11	CONNECTOR, FFC/FPC 20P	
C350	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V (EXCEPT TRV3E/TRV13E/TRV23E)		< DIODE >			
C351	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)		D301	8-719-061-86	DIODE DCR2810 (TRV75/TRV75PK/TRV715)	
C352	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (EXCEPT TRV3E/TRV13E/TRV23E)		D321	8-719-420-14	DIODE MA8082-TX (EXCEPT TRV3E/TRV13E/TRV23E)	
C353	1-162-927-11	CERAMIC CHIP 100PF 5% 50V (EXCEPT TRV3E/TRV13E/TRV23E)		D302	8-749-060-65	DIODE DCC3810 (EXCEPT TRV3E/TRV13E)	
C354	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V (EXCEPT TRV3E/TRV13E/TRV23E)		D303	8-719-061-82	DIODE TLSU1002(TPX1,SONY)	
C355	1-164-245-11	CERAMIC CHIP 0.015uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)		D305	8-719-404-49	DIODE MA111-TX (EXCEPT TRV3E/TRV13E)	
C356	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)		D309	8-719-067-44	DIODE CL-310IRS-X-TU (TRV23E/TRV45E/TRV55E/TRV65E/TRV69E)	
C357	1-164-245-11	CERAMIC CHIP 0.015uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)		D322	8-719-420-14	DIODE MA8082-TX	
C358	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)		D323	8-719-404-49	DIODE MA111-TX (EXCEPT TRV3E/TRV13E/TRV23E)	
C359	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V (EXCEPT TRV3E/TRV13E/TRV23E)		< FUSE >			
C360	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)		△ F301	1-533-874-11	FUSE, MICRO 200mA/24V (EXCEPT TRV3E/TRV13E)	
C361	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)		< IC >			
C362	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)		IC301	8-749-012-83	IC RS-180-T (EXCEPT TRV3E/TRV13E)	
C363	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V (EXCEPT TRV3E/TRV13E/TRV23E)		IC321	8-759-339-63	IC NJM2118V-TE2 (TRV3E/TRV13E/TRV23E)	
C364	1-164-245-11	CERAMIC CHIP 0.015uF 10% 25V (EXCEPT TRV3E/TRV13E/TRV23E)		IC322	8-759-248-31	IC BA7780KV-E2 (EXCEPT TRV3E/TRV13E/TRV23E)	
				< JACK >			
				J301	1-568-027-11	JACK, SMALL TYPE (MIC (PLUG IN POWER)) (TRV3E/TRV13E/TRV23E)	
				J301	1-691-737-11	JACK (SMALL TYPE) (MIC (PLUG IN POWER)) (EXCEPT TRV3E/TRV13E/TRV23E)	

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Ref. No.	Part No.	Description	Remark
< COIL >			
L301	1-216-295-91	SHORT 0 (TRV23E/TRV45E/TRV55E/TRV65E/TRV69E)	
L301	1-414-754-11	INDUCTOR 10uH (TRV75/TRV75PK/TRV715)	
< TRANSISTOR >			
Q301	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX (TRV75/TRV75PK/TRV715)	
Q301	8-729-422-51	TRANSISTOR UN5110-QRS-TX (TRV23E/TRV45E/TRV55E/TRV65E/TRV69E)	
Q302	8-729-122-63	TRANSISTOR 2SA1226-T1E4 (TRV75/TRV75PK/TRV715)	
Q303	8-729-140-75	TRANSISTOR 2SD999-T1-CLCK (EXCEPT TRV3E/TRV13E)	
Q304	8-729-402-42	TRANSISTOR UN5213-TX	
Q305	8-729-402-42	TRANSISTOR UN5213-TX (TRV23E/TRV45E/TRV55E/TRV65E/TRV69E)	
Q321	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX (TRV3E/TRV13E/TRV23E)	
Q322	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX (TRV3E/TRV13E/TRV23E)	
< RESISTOR >			
R301	1-216-823-11	METAL CHIP 1.5K 5% 1/16W (TRV75/TRV75PK/TRV715)	
R302	1-216-810-11	METAL CHIP 120 5% 1/16W (TRV75/TRV75PK/TRV715)	
R304	1-216-309-00	METAL CHIP 5.6 5% 1/10W (TRV23E/TRV45E/TRV55E/TRV65E/TRV69E)	
R304	1-216-311-00	METAL CHIP 6.8 5% 1/10W (TRV75/TRV75PK/TRV715)	
R305	1-216-302-00	METAL CHIP 2.7 5% 1/10W (EXCEPT TRV3E/TRV13E/TRV23E)	
R306	1-216-864-11	METAL CHIP 0 5% 1/16W	
R310	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R311	1-216-805-11	METAL CHIP 47 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R312	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV75/TRV75PK/TRV715)	
R314	1-216-815-11	METAL CHIP 330 5% 1/16W (TRV23E/TRV45E/TRV55E/TRV65E/TRV69E)	
R315	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV75/TRV75PK/TRV715)	
R321	1-216-864-11	METAL CHIP 0 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R322	1-216-864-11	METAL CHIP 0 5% 1/16W	
R323	1-216-864-11	METAL CHIP 0 5% 1/16W	
R324	1-216-864-11	METAL CHIP 0 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R325	1-216-824-11	METAL CHIP 1.8K 5% 1/16W (TRV3E/TRV13E/TRV23E)	
R326	1-216-817-11	METAL CHIP 470 5% 1/16W (TRV3E/TRV13E/TRV23E)	
R327	1-216-841-11	METAL CHIP 47K 5% 1/16W (TRV3E/TRV13E/TRV23E)	
R328	1-216-841-11	METAL CHIP 47K 5% 1/16W (TRV3E/TRV13E/TRV23E)	
R329	1-216-829-11	METAL CHIP 4.7K 5% 1/16W (TRV3E/TRV13E/TRV23E)	

Ref. No.	Part No.	Description	Remark
R330	1-216-830-11	METAL CHIP 5.6K 5% 1/16W (TRV3E/TRV13E/TRV23E)	
R331	1-216-831-11	METAL CHIP 6.8K 5% 1/16W (TRV3E/TRV13E/TRV23E)	
R332	1-216-803-11	METAL CHIP 33 5% 1/16W (TRV3E/TRV13E/TRV23E)	
R333	1-216-838-11	METAL CHIP 27K 5% 1/16W (TRV3E/TRV13E/TRV23E)	
R334	1-216-838-11	METAL CHIP 27K 5% 1/16W (TRV3E/TRV13E/TRV23E)	
R335	1-216-839-11	METAL CHIP 33K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R336	1-216-836-11	METAL CHIP 18K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R337	1-216-835-11	METAL CHIP 15K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R338	1-216-835-11	METAL CHIP 15K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R339	1-216-831-11	METAL CHIP 6.8K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R340	1-216-825-11	METAL CHIP 2.2K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R341	1-216-821-11	METAL CHIP 1K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R342	1-216-831-11	METAL CHIP 6.8K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R343	1-216-829-11	METAL CHIP 4.7K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R344	1-216-833-11	METAL CHIP 10K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R345	1-216-821-11	METAL CHIP 1K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R346	1-216-825-11	METAL CHIP 2.2K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R347	1-216-831-11	METAL CHIP 6.8K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R348	1-216-831-11	METAL CHIP 6.8K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R349	1-216-831-11	METAL CHIP 6.8K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R350	1-216-864-11	METAL CHIP 0 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R351	1-216-838-11	METAL CHIP 27K 5% 1/16W (TRV45E/TRV55E/TRV75/TRV75PK/TRV715)	
R351	1-216-839-11	METAL CHIP 33K 5% 1/16W (TRV65E/TRV69E)	
R352	1-216-839-11	METAL CHIP 33K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R353	1-216-839-11	METAL CHIP 33K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R354	1-216-829-11	METAL CHIP 4.7K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R355	1-216-833-11	METAL CHIP 10K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R356	1-216-864-11	METAL CHIP 0 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R357	1-216-831-11	METAL CHIP 6.8K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R358	1-216-838-11	METAL CHIP 27K 5% 1/16W (TRV45E/TRV55E/TRV75/TRV75PK/TRV715)	
R358	1-216-839-11	METAL CHIP 33K 5% 1/16W (TRV65E/TRV69E)	

Ref. No.	Part No.	Description	Remark
R359	1-216-835-11	METAL CHIP 15K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R360	1-216-835-11	METAL CHIP 15K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R361	1-216-835-11	METAL CHIP 15K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R362	1-216-835-11	METAL CHIP 15K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R363	1-216-830-11	METAL CHIP 5.6K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R364	1-216-839-11	METAL CHIP 33K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R365	1-216-834-11	METAL CHIP 12K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R366	1-216-839-11	METAL CHIP 33K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R367	1-216-818-11	METAL CHIP 560 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
R368	1-216-832-11	METAL CHIP 8.2K 5% 1/16W (EXCEPT TRV3E/TRV13E/TRV23E)	
< SWITCH >			
S302	1-771-040-21	SWITCH, PUSH (POWER (VTR/PLAYER))	
S303	1-771-039-11	SWITCH, PUSH (POWER (CAMERA))	
A-7073-452-A PD-92(SP6) BOARD, COMPLETE (TRV23E) *****			
A-7073-460-A PD-92(CP6) BOARD, COMPLETE (TRV3E/TRV13E) *****			
A-7073-502-A PD-92(SP8) BOARD, COMPLETE (TRV65E/TRV69E) ***** (Ref.No.10000 series)			
< CAPACITOR >			
C5501	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C5502	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C5503	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C5504	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C5505	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C5506	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C5507	1-104-851-11	TANTAL. CHIP 10uF 20% 10V	
C5508	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C5509	1-135-180-21	TANTALUM CHIP 3.3uF 20% 6.3V	
C5511	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	
C5512	1-104-851-11	TANTAL. CHIP 10uF 20% 10V	
C5513	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C5514	1-110-501-11	CERAMIC CHIP 0.33uF 10% 16V (TRV3E/TRV13E)	
C5514	1-115-339-11	CERAMIC CHIP 0.1uF 10% 50V (TRV23E/TRV65E/TRV69E)	
C5515	1-110-501-11	CERAMIC CHIP 0.33uF 10% 16V (TRV3E/TRV13E)	
C5515	1-115-339-11	CERAMIC CHIP 0.1uF 10% 50V (TRV23E/TRV65E/TRV69E)	

Ref. No.	Part No.	Description	Remark
C5516	1-110-501-11	CERAMIC CHIP 0.33uF 10% 16V (TRV3E/TRV13E)	
C5516	1-115-339-11	CERAMIC CHIP 0.1uF 10% 50V (TRV23E/TRV65E/TRV69E)	
C5517	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C5518	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	
C5519	1-104-851-11	TANTAL. CHIP 10uF 20% 10V	
C5520	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C5601	1-104-851-11	TANTAL. CHIP 10uF 20% 10V (TRV3E/TRV13E)	
C5602	1-107-687-11	TANTAL. CHIP 3.3uF 20% 20V	
C5603	1-110-501-11	CERAMIC CHIP 0.33uF 10% 16V (TRV3E/TRV13E)	
C5603	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V (TRV23E/TRV65E/TRV69E)	
C5604	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C5605	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C5607	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C5608	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V	
C5610	1-162-926-11	CERAMIC CHIP 82PF 5% 50V	
C5612	1-162-926-11	CERAMIC CHIP 82PF 5% 50V	
C5616	1-107-682-11	CERAMIC CHIP 1uF 10% 16V	
C5618	1-113-994-11	TANTAL. CHIP 6.8uF 20% 16V (TRV23E/TRV65E/TRV69E)	
C5619	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V (TRV23E/TRV65E/TRV69E)	
C5620	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C5621	1-135-177-21	TANTALUM CHIP 1uF 20% 20V	
C5622	1-107-682-11	CERAMIC CHIP 1uF 10% 16V	
C5623	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V (TRV3E/TRV13E)	
C5624	1-107-688-11	TANTAL. CHIP 1.5uF 20% 10V	
C5625	1-107-688-11	TANTAL. CHIP 1.5uF 20% 10V	
C5633	1-162-967-11	CERAMIC CHIP 0.0033uF 10% 50V	
C5701	1-104-911-11	TANTAL. CHIP 33uF 20% 10V	
C5702	1-164-346-11	CERAMIC CHIP 1uF 10% 16V	
C5703	1-164-664-11	CERAMIC CHIP 0.033uF 10% 50V	
C5704	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C5705	1-113-521-11	CERAMIC CHIP 12PF 10% 3KV	
C5706	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C5801	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
< CONNECTOR >			
* CN5501	1-573-984-11	CONNECTOR, BOARD TO BOARD 10P	
CN5601	1-691-362-11	CONNECTOR, FFC/FPC (ZIF) 24P	
CN5701	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P	
CN5801	1-750-360-21	CONNECTOR, FFC/FPC (ZIF) 24P	
CN5802	1-778-509-21	PIN, CONNECTOR (PC BOARD) 11P	
CN5803	1-778-508-21	PIN, CONNECTOR (PC BOARD) 6P	
CN5804	1-779-064-11	PIN, CONNECTOR (PC BOARD) 12P	
CN5805	1-766-336-21	CONNECTOR, FFC/FPC 6P	
< DIODE >			
D5604	8-719-976-96	DIODE MA8047-H-TX	
D5605	8-713-102-80	DIODE 1T369-01-T8A	
D5703	8-719-058-86	DIODE PG1101H-TR	
D5704	8-719-404-49	DIODE MA111-TX	

Ref. No.	Part No.	Description	Remark
< IC >			
IC5501	8-759-364-05	IC M62376GP-65AD	
IC5502	8-759-486-77	IC IR3Y37M4	
IC5601	8-759-495-00	IC LZ9GH184 (TRV23E/TRV65E/TRV69E)	
IC5601	8-759-530-20	IC CM7017L3-T4 (TRV3E/TRV13E)	
IC5602	8-759-327-01	IC NJM062V(Te2)	
IC5701	8-759-075-70	IC TA75S393F-TE85R	
IC5801	8-759-494-53	IC BU9729K-E2	
< COIL >			
L5501	1-414-754-11	INDUCTOR 10uH	
L5502	1-414-754-11	INDUCTOR 10uH	
L5503	1-414-754-11	INDUCTOR 10uH	
L5601	1-414-754-11	INDUCTOR 10uH (TRV3E/TRV13E)	
L5603	1-414-754-11	INDUCTOR 10uH	
L5604	1-414-754-11	INDUCTOR 10uH	
L5605	1-412-953-11	INDUCTOR 15uH (TRV65E/TRV69E)	
L5605	1-412-956-21	INDUCTOR 27uH (TRV23E)	
L5605	1-412-957-11	INDUCTOR 33uH (TRV3E/TRV13E)	
L5701	1-409-536-41	INDUCTOR 0uH	
< TRANSISTOR >			
Q5501	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
Q5601	8-729-402-42	TRANSISTOR UN5213-TX	
Q5602	8-729-402-42	TRANSISTOR UN5213-TX	
Q5605	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q5606	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
Q5607	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q5608	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
Q5701	8-729-039-43	TRANSISTOR FP216-TL	
Q5702	8-729-015-74	TRANSISTOR UN5111-TX	
< RESISTOR >			
R5501	1-216-840-11	METAL CHIP 39K 5% 1/16W	
R5505	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R5512	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R5513	1-216-834-11	METAL CHIP 12K 5% 1/16W	
R5516	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R5517	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R5518	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R5520	1-216-852-11	METAL CHIP 390K 5% 1/16W	
R5521	1-216-834-11	METAL CHIP 12K 5% 1/16W	
R5522	1-216-840-11	METAL CHIP 39K 5% 1/16W (TRV23E/TRV65E/TRV69E)	
R5522	1-216-843-11	METAL CHIP 68K 5% 1/16W (TRV3E/TRV13E)	
R5528	1-218-895-11	RES,CHIP 100K 0.50% 1/16W	
R5531	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R5532	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R5533	1-216-864-11	METAL CHIP 0 5% 1/16W	
R5537	1-216-828-11	METAL CHIP 3.9K 5% 1/16W (TRV3E/TRV13E)	
R5537	1-216-831-11	METAL CHIP 6.8K 5% 1/16W (TRV65E/TRV69E)	
R5537	1-216-832-11	METAL CHIP 8.2K 5% 1/16W (TRV23E)	
R5541	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R5542	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	

Ref. No.	Part No.	Description	Remark
R5544	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R5602	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV3E/TRV13E)	
R5603	1-216-864-11	METAL CHIP 0 5% 1/16W	
R5604	1-216-864-11	METAL CHIP 0 5% 1/16W	
R5605	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV3E/TRV13E)	
R5607	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV23E/TRV65E/TRV69E)	
R5608	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV23E/TRV65E/TRV69E)	
R5610	1-216-842-11	METAL CHIP 56K 5% 1/16W (TRV3E/TRV13E)	
R5610	1-216-845-11	METAL CHIP 100K 5% 1/16W (TRV23E/TRV65E/TRV69E)	
R5612	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R5613	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R5615	1-216-849-11	METAL CHIP 220K 5% 1/16W (TRV3E/TRV13E/TRV23E)	
R5615	1-216-851-11	METAL CHIP 330K 5% 1/16W (TRV65E/TRV69E)	
R5617	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R5621	1-216-857-11	METAL CHIP 1M 5% 1/16W (TRV23E/TRV65E/TRV69E)	
R5622	1-216-864-11	METAL CHIP 0 5% 1/16W	
R5625	1-218-891-11	RES,CHIP 68K 0.50% 1/16W (TRV3E/TRV13E)	
R5625	1-218-895-11	RES,CHIP 100K 0.50% 1/16W (TRV23E/TRV65E/TRV69E)	
R5627	1-218-895-11	RES,CHIP 100K 0.50% 1/16W (TRV3E/TRV13E)	
R5627	1-218-901-11	RES,CHIP 180K 0.50% 1/16W (TRV23E/TRV65E/TRV69E)	
R5628	1-216-864-11	METAL CHIP 0 5% 1/16W	
R5629	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R5630	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R5632	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV23E)	
R5636	1-216-864-11	METAL CHIP 0 5% 1/16W	
R5637	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV23E/TRV65E/TRV69E)	
R5640	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R5641	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R5643	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R5644	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R5647	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV3E/TRV13E)	
R5648	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV3E/TRV13E)	
R5651	1-218-883-11	RES,CHIP 33K 0.50% 1/16W (TRV23E/TRV65E/TRV69E)	
R5652	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV3E/TRV13E)	
R5652	1-218-879-11	RES,CHIP 22K 0.50% 1/16W (TRV23E/TRV65E/TRV69E)	
R5653	1-218-883-11	RES,CHIP 33K 0.50% 1/16W (TRV23E/TRV65E/TRV69E)	
R5654	1-218-879-11	RES,CHIP 22K 0.50% 1/16W (TRV23E/TRV65E/TRV69E)	
R5657	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV23E/TRV65E/TRV69E)	
R5658	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV23E/TRV65E/TRV69E)	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R5659	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV23E/TRV65E/TRV69E)	R5703	1-216-055-00	METAL CHIP	1.8K 5% 1/10W
				R5704	1-216-055-00	METAL CHIP	1.8K 5% 1/10W
R5660	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV23E/TRV65E/TRV69E)	R5705	1-216-845-11	METAL CHIP	100K 5% 1/16W
R5661	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV23E/TRV65E/TRV69E)	R5706	1-216-831-11	METAL CHIP	6.8K 5% 1/16W
R5663	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV3E/TRV13E)	R5707	1-216-837-11	METAL CHIP	22K 5% 1/16W
R5664	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV3E/TRV13E)	R5708	1-216-810-11	METAL CHIP	120 5% 1/16W
R5665	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV3E/TRV13E)	R5709	1-216-817-11	METAL CHIP	470 5% 1/16W
R5666	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV3E/TRV13E)	R5710	1-216-864-11	METAL CHIP	0 5% 1/16W
R5667	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV3E/TRV13E)	R5801	1-216-823-11	METAL CHIP	1.5K 5% 1/16W
R5668	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV3E/TRV13E)	R5802	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
R5669	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV23E/TRV65E/TRV69E)	R5803	1-216-828-11	METAL CHIP	3.9K 5% 1/16W
R5670	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV23E/TRV65E/TRV69E)	R5804	1-216-832-11	METAL CHIP	8.2K 5% 1/16W
				R5805	1-216-838-11	METAL CHIP	27K 5% 1/16W
R5671	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV23E/TRV65E/TRV69E)	R5806	1-216-822-11	METAL CHIP	1.2K 5% 1/16W
R5672	1-216-849-11	METAL CHIP	220K 5% 1/16W (TRV3E/TRV13E)	R5807	1-216-809-11	METAL CHIP	100 5% 1/16W
R5673	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV3E/TRV13E)	R5808	1-216-809-11	METAL CHIP	100 5% 1/16W
R5674	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV23E/TRV65E/TRV69E)	R5811	1-216-864-11	METAL CHIP	0 5% 1/16W
R5676	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV23E/TRV65E/TRV69E)	R5812	1-216-855-11	METAL CHIP	680K 5% 1/16W
				< SWITCH >			
				S5801	1-692-088-41	SWITCH, TACTILE (LCD BRIGHT +)	
				S5802	1-692-088-41	SWITCH, TACTILE (LCD BRIGHT -)	
				S5803	1-692-088-41	SWITCH, TACTILE (VOLUME +)	
				S5804	1-692-088-41	SWITCH, TACTILE (VOLUME -)	
				< TRANSFORMER >			
				△ T5701	1-429-547-31	TRANSFORMER, INVERTER	
R5678	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV3E/TRV13E)	A-7073-457-A	PD-93(SN3) BOARD, COMPLETE (TRV75/TRV75PK/TRV715) *****		
R5679	1-216-805-11	METAL CHIP	47 5% 1/16W (TRV23E/TRV65E/TRV69E)	A-7073-480-A	PD-93(SP3.5) BOARD, COMPLETE (TRV45E/TRV55E) ***** (Ref. No. 10000 series)		
R5680	1-216-805-11	METAL CHIP	47 5% 1/16W (TRV23E/TRV65E/TRV69E)	< CAPACITOR >			
R5681	1-216-805-11	METAL CHIP	47 5% 1/16W (TRV23E/TRV65E/TRV69E)	C4501	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
R5682	1-216-805-11	METAL CHIP	47 5% 1/16W (TRV3E/TRV13E)	C4502	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
				C4503	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
R5683	1-216-805-11	METAL CHIP	47 5% 1/16W (TRV3E/TRV13E)	C4504	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
R5684	1-216-805-11	METAL CHIP	47 5% 1/16W (TRV3E/TRV13E)	C4505	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
R5685	1-216-845-11	METAL CHIP	100K 5% 1/16W	C4506	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
R5686	1-216-845-11	METAL CHIP	100K 5% 1/16W	C4507	1-104-851-11	TANTAL. CHIP	10uF 20% 10V
R5688	1-216-864-11	METAL CHIP	0 5% 1/16W	C4508	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
				C4509	1-135-180-21	TANTALUM CHIP	3.3uF 20% 6.3V
R5692	1-216-851-11	METAL CHIP	330K 5% 1/16W (TRV3E/TRV13E/TRV23E)	C4511	1-107-682-11	CERAMIC CHIP	1uF 10% 16V
R5692	1-216-852-11	METAL CHIP	390K 5% 1/16W (TRV65E/TRV69E)	C4512	1-104-851-11	TANTAL. CHIP	10uF 20% 10V
R5694	1-216-839-11	METAL CHIP	33K 5% 1/16W	C4513	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
R5695	1-216-833-11	METAL CHIP	10K 5% 1/16W	C4514	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
R5696	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV23E/TRV65E/TRV69E)	C4515	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
				C4516	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
R5697	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV3E/TRV13E)	C4517	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
R5698	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV3E/TRV13E)	C4518	1-109-982-11	CERAMIC CHIP	1uF 10% 10V
				C4519	1-104-851-11	TANTAL. CHIP	10uF 20% 10V
				C4520	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V

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Ref. No.	Part No.	Description	Remark		
C4602	1-107-687-11	TANTAL. CHIP 3.3uF 20%	20V		
C4603	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V		
C4604	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V		
C4605	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V		
C4607	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V		
C4608	1-164-357-11	CERAMIC CHIP 1000PF 5%	50V		
C4610	1-162-926-11	CERAMIC CHIP 82PF 5%	50V		
C4612	1-162-926-11	CERAMIC CHIP 82PF 5%	50V		
C4616	1-107-682-11	CERAMIC CHIP 1uF 10%	16V		
C4618	1-113-994-11	TANTAL. CHIP 6.8uF 20%	16V		
C4619	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V		
C4620	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V		
C4621	1-135-177-21	TANTALUM CHIP 1uF 20%	20V		
C4622	1-107-682-11	CERAMIC CHIP 1uF 10%	16V		
C4624	1-107-688-11	TANTAL. CHIP 1.5uF 20%	10V		
C4625	1-107-688-11	TANTAL. CHIP 1.5uF 20%	10V		
C4633	1-162-967-11	CERAMIC CHIP 0.0033uF 10%	50V		
C4701	1-104-911-11	TANTAL. CHIP 33uF 20%	10V		
C4702	1-164-346-11	CERAMIC CHIP 1uF 10%	16V		
C4703	1-164-664-11	CERAMIC CHIP 0.033uF 10%	50V		
C4704	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V		
△ C4705	1-113-520-11	CERAMIC CHIP 10PF 10%	3KV		
		(TRV75/TRV75PK/TRV715)			
△ C4705	1-113-521-11	CERAMIC CHIP 12PF 10%	3KV		
		(TRV45E/TRV55E)			
C4706	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V		
C4801	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V		
< CONNECTOR >					
* CN4501	1-573-984-11	CONNECTOR, BOARD TO BOARD 10P			
CN4601	1-691-362-11	CONNECTOR, FFC/FPC (ZIF) 24P			
CN4701	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P			
CN4801	1-750-360-21	CONNECTOR, FFC/FPC (ZIF) 24P			
CN4802	1-778-509-21	PIN, CONNECTOR (PC BOARD) 11P			
CN4803	1-778-508-21	PIN, CONNECTOR (PC BOARD) 6P			
CN4804	1-779-064-11	PIN, CONNECTOR (PC BOARD) 12P			
CN4805	1-766-336-21	CONNECTOR, FFC/FPC 6P			
< DIODE >					
D4604	8-719-976-96	DIODE MA8047-H-TX			
D4605	8-713-102-80	DIODE 1T369-01-T8A			
D4704	8-719-404-49	DIODE MA111-TX			
< IC >					
IC4501	8-759-364-05	IC M62376GP-65AD			
IC4502	8-759-486-77	IC IR3Y37M4			
IC4601	8-759-491-14	IC LZ9GH174 (TRV45E/TRV55E)			
IC4601	8-759-491-15	IC LZ9GH164 (TRV75/TRV75PK/TRV715)			
IC4602	8-759-327-01	IC NJM062V(Te2)			
IC4701	8-759-075-70	IC TA75S393F-TE85R			
IC4801	8-759-494-53	IC BU9729K-E2			
< COIL >					
L4501	1-414-754-11	INDUCTOR 10uH			
L4502	1-414-754-11	INDUCTOR 10uH			
L4503	1-414-754-11	INDUCTOR 10uH			

Ref. No.	Part No.	Description	Remark		
L4603	1-414-754-11	INDUCTOR 10uH			
L4604	1-414-754-11	INDUCTOR 10uH			
L4605	1-412-951-11	INDUCTOR 10uH (TRV45E/TRV55E)			
L4605	1-412-954-11	INDUCTOR 18uH			
		(TRV75/TRV75PK/TRV715)			
L4701	1-409-536-41	INDUCTOR 0uH			
< TRANSISTOR >					
Q4501	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX			
Q4601	8-729-402-42	TRANSISTOR UN5213-TX			
Q4602	8-729-402-42	TRANSISTOR UN5213-TX			
Q4605	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX			
Q4606	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX			
Q4607	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX			
Q4608	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX			
Q4701	8-729-039-43	TRANSISTOR FP216-TL			
Q4702	8-729-015-74	TRANSISTOR UN5111-TX			
< RESISTOR >					
R4501	1-216-840-11	METAL CHIP 39K 5%	1/16W		
R4505	1-216-841-11	METAL CHIP 47K 5%	1/16W		
R4512	1-216-837-11	METAL CHIP 22K 5%	1/16W		
R4513	1-216-834-11	METAL CHIP 12K 5%	1/16W		
R4516	1-216-837-11	METAL CHIP 22K 5%	1/16W		
R4517	1-216-835-11	METAL CHIP 15K 5%	1/16W		
R4518	1-216-839-11	METAL CHIP 33K 5%	1/16W		
R4520	1-216-852-11	METAL CHIP 390K 5%	1/16W		
R4521	1-216-834-11	METAL CHIP 12K 5%	1/16W		
R4522	1-216-840-11	METAL CHIP 39K 5%	1/16W		
R4528	1-218-895-11	RES,CHIP 100K 0.50%	1/16W		
R4531	1-216-821-11	METAL CHIP 1K 5%	1/16W		
R4532	1-216-841-11	METAL CHIP 47K 5%	1/16W		
R4533	1-216-864-11	METAL CHIP 0 5%	1/16W		
R4534	1-216-805-11	METAL CHIP 47 5%	1/16W		
R4535	1-216-805-11	METAL CHIP 47 5%	1/16W		
R4536	1-216-805-11	METAL CHIP 47 5%	1/16W		
R4537	1-216-829-11	METAL CHIP 4.7K 5%	1/16W		
		(TRV75/TRV75PK/TRV715)			
R4537	1-216-831-11	METAL CHIP 6.8K 5%	1/16W		
		(TRV45E/TRV55E)			
R4541	1-216-825-11	METAL CHIP 2.2K 5%	1/16W		
R4542	1-216-824-11	METAL CHIP 1.8K 5%	1/16W		
R4544	1-216-821-11	METAL CHIP 1K 5%	1/16W		
R4603	1-216-864-11	METAL CHIP 0 5%	1/16W		
R4604	1-216-864-11	METAL CHIP 0 5%	1/16W		
R4607	1-216-864-11	METAL CHIP 0 5%	1/16W		
R4608	1-216-864-11	METAL CHIP 0 5%	1/16W		
R4610	1-216-845-11	METAL CHIP 100K 5%	1/16W		
R4612	1-216-833-11	METAL CHIP 10K 5%	1/16W		
R4613	1-216-841-11	METAL CHIP 47K 5%	1/16W		
R4615	1-216-839-11	METAL CHIP 33K 5%	1/16W		
R4617	1-216-833-11	METAL CHIP 10K 5%	1/16W		
R4621	1-216-857-11	METAL CHIP 1M 5%	1/16W		
R4622	1-216-864-11	METAL CHIP 0 5%	1/16W		
R4625	1-218-893-11	RES,CHIP 82K 0.50%	1/16W		
R4627	1-218-893-11	RES,CHIP 82K 0.50%	1/16W		
		(TRV75/TRV75PK/TRV715)			

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Ref. No.	Part No.	Description	Remark
R4627	1-218-899-11	RES,CHIP	150K 0.50% 1/16W (TRV45E/TRV55E)
R4628	1-216-864-11	METAL CHIP	0 5% 1/16W
R4629	1-216-833-11	METAL CHIP	10K 5% 1/16W
R4630	1-216-821-11	METAL CHIP	1K 5% 1/16W
R4632	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV75/TRV75PK/TRV715)
R4636	1-216-864-11	METAL CHIP	0 5% 1/16W
R4637	1-216-864-11	METAL CHIP	0 5% 1/16W
R4640	1-216-845-11	METAL CHIP	100K 5% 1/16W
R4641	1-216-839-11	METAL CHIP	33K 5% 1/16W
R4643	1-216-842-11	METAL CHIP	56K 5% 1/16W
R4644	1-216-839-11	METAL CHIP	33K 5% 1/16W
R4651	1-218-883-11	RES,CHIP	33K 0.50% 1/16W
R4652	1-218-879-11	RES,CHIP	22K 0.50% 1/16W
R4653	1-218-883-11	RES,CHIP	33K 0.50% 1/16W
R4654	1-218-879-11	RES,CHIP	22K 0.50% 1/16W
R4657	1-216-864-11	METAL CHIP	0 5% 1/16W
R4658	1-216-864-11	METAL CHIP	0 5% 1/16W
R4659	1-216-864-11	METAL CHIP	0 5% 1/16W
R4660	1-216-864-11	METAL CHIP	0 5% 1/16W
R4661	1-216-864-11	METAL CHIP	0 5% 1/16W
R4669	1-216-864-11	METAL CHIP	0 5% 1/16W
R4670	1-216-864-11	METAL CHIP	0 5% 1/16W
R4671	1-216-864-11	METAL CHIP	0 5% 1/16W
R4674	1-216-864-11	METAL CHIP	0 5% 1/16W
R4676	1-216-864-11	METAL CHIP	0 5% 1/16W
R4679	1-216-864-11	METAL CHIP	0 5% 1/16W
R4680	1-216-864-11	METAL CHIP	0 5% 1/16W
R4681	1-216-864-11	METAL CHIP	0 5% 1/16W
R4685	1-216-845-11	METAL CHIP	100K 5% 1/16W
R4686	1-216-845-11	METAL CHIP	100K 5% 1/16W
R4688	1-216-864-11	METAL CHIP	0 5% 1/16W
R4692	1-216-840-11	METAL CHIP	39K 5% 1/16W
R4693	1-216-849-11	METAL CHIP	220K 5% 1/16W (TRV45E/TRV55E)
R4693	1-216-850-11	METAL CHIP	270K 5% 1/16W (TRV75/TRV75PK/TRV715)
R4694	1-216-833-11	METAL CHIP	10K 5% 1/16W
R4695	1-216-833-11	METAL CHIP	10K 5% 1/16W
R4696	1-216-864-11	METAL CHIP	0 5% 1/16W
R4703	1-216-055-00	METAL CHIP	1.8K 5% 1/10W
R4704	1-216-055-00	METAL CHIP	1.8K 5% 1/10W
R4705	1-216-845-11	METAL CHIP	100K 5% 1/16W
R4706	1-216-831-11	METAL CHIP	6.8K 5% 1/16W
R4707	1-216-837-11	METAL CHIP	22K 5% 1/16W
R4708	1-216-810-11	METAL CHIP	120 5% 1/16W
R4709	1-216-817-11	METAL CHIP	470 5% 1/16W
R4710	1-216-816-11	METAL CHIP	390 5% 1/16W
R4801	1-216-823-11	METAL CHIP	1.5K 5% 1/16W
R4802	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
R4803	1-216-828-11	METAL CHIP	3.9K 5% 1/16W
R4804	1-216-832-11	METAL CHIP	8.2K 5% 1/16W
R4805	1-216-838-11	METAL CHIP	27K 5% 1/16W
R4806	1-216-822-11	METAL CHIP	1.2K 5% 1/16W
R4807	1-216-809-11	METAL CHIP	100 5% 1/16W
R4808	1-216-809-11	METAL CHIP	100 5% 1/16W
R4811	1-216-864-11	METAL CHIP	0 5% 1/16W
R4812	1-216-855-11	METAL CHIP	680K 5% 1/16W

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S4801	1-692-088-41	SWITCH, TACTILE (LCD BRIGHT +)	
S4802	1-692-088-41	SWITCH, TACTILE (LCD BRIGHT -)	
S4803	1-692-088-41	SWITCH, TACTILE (VOLUME +)	
S4804	1-692-088-41	SWITCH, TACTILE (VOLUME -)	
		< TRANSFORMER >	
△T4701	1-429-507-31	TRANSFORMER, INVERTER	
		A-7073-405-A PJ-83(M) BOARD, COMPLETE (TRV3E/TRV13E/TRV23E) *****	
		A-7073-410-A PJ-83(H) BOARD, COMPLETE (TRV65E/TRV69E) ***** (Ref. No. 4000 series)	
		A-7073-433-A PJ-84(H) BOARD, COMPLETE (TRV75/TRV75PK/TRV715) *****	
		A-7073-477-A PJ-84(S) BOARD, COMPLETE (TRV45E/TRV55E) ***** (Ref. No. 9000 series)	
		< CAPACITOR >	
C101	1-110-569-11	TANTAL. CHIP 47uF 20% 6.3V	
		< CONNECTOR >	
* CN101	1-764-521-11	CONNECTOR, FFC/FPC (ZIF) 12P	
		< DIODE >	
D101	8-719-059-57	DIODE MAZJ082DFLSO (EXCEPT TRV3E/TRV13E/TRV23E)	
D102	8-719-059-57	DIODE MAZJ082DFLSO	
D103	8-719-059-57	DIODE MAZJ082DFLSO	
D104	8-719-420-14	DIODE MA8082-TX (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
D105	8-719-059-57	DIODE MAZJ082DFLSO (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
D106	8-719-059-57	DIODE MAZJ082DFLSO (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
		< JACK >	
J101	1-537-747-21	TERMINAL BOARD (S VIDEO/VIDEO/AUDIO) (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
J101	1-537-747-31	TERMINAL BOARD (S VIDEO/VIDEO/AUDIO) (TRV45E/TRV55E)	
J101	1-537-747-41	TERMINAL BOARD (VIDEO/AUDIO) (TRV3E/TRV13E/TRV23E)	
		< COIL >	
L101	1-414-072-11	INDUCTOR 1uH	
L102	1-216-295-91	SHORT 0	
L103	1-216-295-91	SHORT 0	
		(EXCEPT TRV3E/TRV13E/TRV23E)	
L104	1-216-295-91	SHORT 0	
		(EXCEPT TRV3E/TRV13E/TRV23E)	

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Ref. No.	Part No.	Description	Remark			
< TRANSISTOR >						
Q101	8-729-101-07	TRANSISTOR	2SB798-T1-DLTK			
Q102	8-729-230-63	TRANSISTOR	2SD1819A-QRS-TX			
< RESISTOR >						
R101	1-216-864-11	METAL CHIP	0	5%	1/16W	
R102	1-216-138-00	METAL CHIP	3.3	5%	1/8W	
R103	1-216-830-11	METAL CHIP	5.6K	5%	1/16W	
R104	1-216-820-11	METAL CHIP	820	5%	1/16W	
R105	1-216-836-11	METAL CHIP	18K	5%	1/16W	
R106	1-216-864-11	METAL CHIP	0	5%	1/16W	
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)				
R107	1-216-864-11	METAL CHIP	0	5%	1/16W	
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)				
R108	1-216-821-11	METAL CHIP	1K	5%	1/16W	
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)				
R109	1-216-821-11	METAL CHIP	1K	5%	1/16W	
A-7073-404-A SE-66(V) BOARD, COMPLETE						
		(TRV3E/TRV13E/TRV23E)				

A-7073-409-A SE-66(VH) BOARD, COMPLETE						
		(TRV65E/TRV69E)				

		(Ref. No. 4000 series)				
A-7073-434-A SE-67(VH) BOARD, COMPLETE						
		(TRV45E/TRV55E/TRV75/TRV75PK/TRV715)				

		(Ref. No. 9000 series)				
< CAPACITOR >						
C451	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
		(EXCEPT TRV3E/TRV13E/TRV23E)				
C452	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
		(EXCEPT TRV3E/TRV13E/TRV23E)				
C453	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	
		(EXCEPT TRV3E/TRV13E/TRV23E)				
C454	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	
		(EXCEPT TRV3E/TRV13E/TRV23E)				
C457	1-164-343-11	CERAMIC CHIP	0.056uF	10%	25V	
		(EXCEPT TRV3E/TRV13E/TRV23E)				
C458	1-164-343-11	CERAMIC CHIP	0.056uF	10%	25V	
		(EXCEPT TRV3E/TRV13E/TRV23E)				
C459	1-164-343-11	CERAMIC CHIP	0.056uF	10%	25V	
		(EXCEPT TRV3E/TRV13E/TRV23E)				
C460	1-110-666-11	ELECT CHIP	22uF	20%	6.3V	
		(EXCEPT TRV3E/TRV13E/TRV23E)				
C461	1-164-343-11	CERAMIC CHIP	0.056uF	10%	25V	
		(EXCEPT TRV3E/TRV13E/TRV23E)				
C462	1-110-666-11	ELECT CHIP	22uF	20%	6.3V	
		(EXCEPT TRV3E/TRV13E/TRV23E)				
C464	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V	
		(EXCEPT TRV3E/TRV13E/TRV23E)				
C465	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
		(EXCEPT TRV3E/TRV13E/TRV23E)				
C466	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
		(EXCEPT TRV3E/TRV13E/TRV23E)				

Ref. No.	Part No.	Description	Remark		
< CONNECTOR >					
CN451	1-691-348-11	CONNECTOR, FFC/FPC (ZIF) 10P			
< DIODE >					
D451	8-719-059-57	DIODE MAZJ082DFLSO			
D452	8-719-059-57	DIODE MAZJ082DFLSO	(EXCEPT TRV3E/TRV13E/TRV23E)		
< IC >					
IC451	8-759-489-19	IC uPC6756GR-8JG-E2	(EXCEPT TRV3E/TRV13E/TRV23E)		
< JACK >					
J451	1-695-514-11	JACK (SMALL TYPE) 1P (EARPHONE)	(TRV3E/TRV13E/TRV23E)		
J451	1-695-514-21	JACK (SMALL TYPE) 1P (HEADPHONE)	(EXCEPT TRV3E/TRV13E/TRV23E)		
< COIL >					
L451	1-414-754-11	INDUCTOR 10uH	(EXCEPT TRV3E/TRV13E/TRV23E)		
L453	1-216-295-91	SHORT 0			
L454	1-216-295-91	SHORT 0	(EXCEPT TRV3E/TRV13E/TRV23E)		
< RESISTOR >					
R451	1-216-837-11	METAL CHIP 22K 5% 1/16W	(EXCEPT TRV3E/TRV13E/TRV23E)		
R452	1-216-837-11	METAL CHIP 22K 5% 1/16W	(EXCEPT TRV3E/TRV13E/TRV23E)		
R453	1-216-837-11	METAL CHIP 22K 5% 1/16W	(EXCEPT TRV3E/TRV13E/TRV23E)		
R454	1-216-837-11	METAL CHIP 22K 5% 1/16W	(EXCEPT TRV3E/TRV13E/TRV23E)		
R455	1-216-864-11	METAL CHIP 0 5% 1/16W	(EXCEPT TRV3E/TRV13E/TRV23E)		
R456	1-216-857-11	METAL CHIP 1M 5% 1/16W	(EXCEPT TRV3E/TRV13E/TRV23E)		
R458	1-216-833-11	METAL CHIP 10K 5% 1/16W	(EXCEPT TRV3E/TRV13E/TRV23E)		
R459	1-216-857-11	METAL CHIP 1M 5% 1/16W	(EXCEPT TRV3E/TRV13E/TRV23E)		
R461	1-216-835-11	METAL CHIP 15K 5% 1/16W	(EXCEPT TRV3E/TRV13E/TRV23E)		
R463	1-216-809-11	METAL CHIP 100 5% 1/16W	(EXCEPT TRV3E/TRV13E/TRV23E)		
< SENSOR >					
SE451	1-803-041-31	SENSOR, ANGULAR VELOCITY (PITCH)	(EXCEPT TRV3E/TRV13E/TRV23E)		
SE452	1-803-041-41	SENSOR, ANGULAR VELOCITY (YAW)	(EXCEPT TRV3E/TRV13E/TRV23E)		

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-7093-449-A	VC-195(VHIOU) BOARD, COMPLETE (TRV75/TRV75PK/715) *****		C039	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
	A-7093-453-A	VC-195(VH0E) BOARD, COMPLETE (TRV65E) *****		C040	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V (TRV75/TRV75PK/TRV715)	
	A-7093-456-A	VC-195(VZ0P) BOARD, COMPLETE (TRV3E/TRV13E/TRV23E) *****		C041	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
	A-7093-460-A	VC-195(VMROP) BOARD, COMPLETE (TRV55E) *****		C042	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
	A-7093-461-A	VC-195 (VMOP) BOARD, COMPLETE (TRV45E) *****		C043	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
	A-7093-454-A	VC-195(VHODE) BOARD, COMPLETE (TRV69E) ***** (Ref. No. 1.000 series)		C047	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V (TRV69E)	
	< CAPACITOR >			C048	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C001	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C049	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C004	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C050	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C006	1-104-752-11	TANTAL. CHIP 33uF 20% 6.3V		C052	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C007	1-104-752-11	TANTAL. CHIP 33uF 20% 6.3V		C053	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C008	1-162-927-11	CERAMIC CHIP 100PF 5% 50V		C055	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C009	1-164-217-11	CERAMIC CHIP 150PF 5% 50V		C058	1-162-968-11	CERAMIC CHIP 0.0047uF 10% 50V	
C010	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C059	1-164-217-11	CERAMIC CHIP 150PF 5% 50V	
C011	1-162-926-11	CERAMIC CHIP 82PF 5% 50V		C060	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C012	1-162-927-11	CERAMIC CHIP 100PF 5% 50V		C061	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C013	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V (TRV75/TRV75PK/TRV715)		C062	1-162-926-11	CERAMIC CHIP 82PF 5% 50V	
C014	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V (TRV75/TRV75PK/TRV715)		C065	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C015	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V (TRV75/TRV75PK/TRV715)		C068	1-162-921-11	CERAMIC CHIP 33PF 5% 50V	
C016	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V (TRV75/TRV75PK/TRV715)		C069	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C017	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V		C070	1-162-908-11	CERAMIC CHIP 3PF 0.25PF 50V	
C018	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C071	1-104-752-11	TANTAL. CHIP 33uF 20% 6.3V	
C019	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V		C072	1-162-958-11	CERAMIC CHIP 270PF 5% 50V	
C020	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (TRV75/TRV75PK/TRV715)		C073	1-164-392-11	CERAMIC CHIP 390PF 5% 50V	
C021	1-164-156-11	CERAMIC CHIP 0.1uF 25V		C074	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
C022	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C075	1-164-315-11	CERAMIC CHIP 470PF 5% 50V (TRV3E/TRV13E/TRV23E)	
C023	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V		C075	1-162-959-11	CERAMIC CHIP 330PF 5% 50V (EXCEPT TRV3E/TRV13E/TRV23E)	
C024	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V		C076	1-162-921-11	CERAMIC CHIP 33PF 5% 50V (TRV75/TRV75PK/TRV715)	
C025	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (TRV75/TRV75PK/TRV715)		C076	1-162-922-11	CERAMIC CHIP 39PF 5% 50V (TRV65E/TRV69E)	
C026	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C078	1-162-928-11	CERAMIC CHIP 120PF 5% 50V	
C027	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C079	1-162-922-11	CERAMIC CHIP 39PF 5% 50V (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
C028	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V		C080	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
C029	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C080	1-162-919-11	CERAMIC CHIP 22PF 5% 50V (TRV3E/TRV13E/TRV23E/TRV45E/TRV55E)	
C030	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C081	1-162-916-11	CERAMIC CHIP 12PF 5% 50V	
C031	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C082	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	
C032	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V		C083	1-162-924-11	CERAMIC CHIP 56PF 5% 50V (TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/TRV69E)	
C033	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V		C083	1-162-926-11	CERAMIC CHIP 82PF 5% 50V (TRV75/TRV75PK/TRV715)	
C034	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V		C085	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C035	1-162-920-11	CERAMIC CHIP 27PF 5% 50V		C086	1-115-156-11	CERAMIC CHIP 1uF 10V	
C036	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C088	1-162-925-11	CERAMIC CHIP 68PF 5% 50V (TRV3E/TRV13E/TRV23E/TRV45E/TRV55E)	
C037	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		C088	1-162-957-11	CERAMIC CHIP 220PF 5% 50V (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
C038	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V (TRV75/TRV75PK/TRV715)		C089	1-162-919-11	CERAMIC CHIP 22PF 5% 50V (TRV3E/TRV13E/TRV23E)	
				C089	1-162-923-11	CERAMIC CHIP 47PF 5% 50V (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
				C089	1-162-925-11	CERAMIC CHIP 68PF 5% 50V (TRV45E/TRV55E)	
				C090	1-162-958-11	CERAMIC CHIP 270PF 5% 50V	

Ref. No.	Part No.	Description	Remark		
C152	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C156	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C157	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C158	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C159	1-164-346-11	CERAMIC CHIP	1uF		16V
C160	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C161	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C162	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)			
C163	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C164	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)			
C166	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C168	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C169	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C170	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C171	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C172	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C173	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C174	1-162-928-11	CERAMIC CHIP	120PF	5%	50V
		(TRV45E/TRV55E/TRV65E/TRV69E)			
C174	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
		(TRV75/TRV75PK/TRV715)			
C175	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C177	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C178	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C179	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C180	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C181	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)			
C182	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C183	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)			
C184	1-115-156-11	CERAMIC CHIP	1uF		10V
C185	1-126-246-11	ELECT CHIP	220uF	20%	4V
C187	1-126-246-11	ELECT CHIP	220uF	20%	4V
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)			
C188	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C190	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C191	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C192	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C202	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C204	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C205	1-115-156-11	CERAMIC CHIP	1uF		10V
C206	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C207	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C209	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)			
C209	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
		(TRV3E/TRV13E/TRV23E/TRV45E/TRV55E)			
C210	1-162-922-11	CERAMIC CHIP	39PF	5%	50V
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)			
C211	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C212	1-164-392-11	CERAMIC CHIP	390PF	5%	50V
C217	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

Ref. No.	Part No.	Description	Remark		
C218	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C219	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C224	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C225	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C226	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C227	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C229	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C230	1-115-156-11	CERAMIC CHIP	1uF		10V
C232	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C233	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C234	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C235	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C237	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C239	1-115-156-11	CERAMIC CHIP	1uF		10V
C243	1-115-156-11	CERAMIC CHIP	1uF		10V
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)			
C243	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		(TRV55E)			
C244	1-115-156-11	CERAMIC CHIP	1uF		10V
		(TRV55E/TRV65E/TRV75/TRV75PK/TRV715)			
C245	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C246	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C247	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C250	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C252	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
		(TRV55E)			
C301	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C302	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C307	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C308	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C309	1-135-318-11	TANTAL. CHIP	33uF	20%	4V
C310	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C312	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C313	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C316	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C317	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C318	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C319	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C320	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C321	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C322	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C323	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C324	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C325	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		(TRV3E/TRV13E/TRV23E)			
C327	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C326	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C328	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C329	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		(TRV75/TRV75PK/TRV715)			
C330	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C331	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
		(EXCEPT TRV3E/TRV13E/TRV23E)			
C332	1-109-982-11	CERAMIC CHIP	1uF	10%	10V

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
C333	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V	C463	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C334	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V	C464	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		(EXCEPT TRV3E/TRV13E/TRV23E)				C465	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C335	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V	C467	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
						C468	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C336	1-109-982-11	CERAMIC CHIP	1uF	10%	10V						
		(EXCEPT TRV3E/TRV13E/TRV23E)				C469	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C337	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	C470	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C338	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	C471	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C339	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	C472	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		(EXCEPT TRV3E/TRV13E/TRV23E)				C473	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C340	1-109-982-11	CERAMIC CHIP	1uF	10%	10V						
						C474	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C341	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	C475	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		(EXCEPT TRV3E/TRV13E/TRV23E)				C476	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C342	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	C478	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C344	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C480	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
		(EXCEPT TRV3E/TRV13E/TRV23E)									
C346	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C483	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C347	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C484	1-164-156-11	CERAMIC CHIP	0.1uF		25V
						C485	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C349	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C486	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C367	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V	C487	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
		(TRV55E)									
C371	1-104-908-11	TANTAL. CHIP	47uF	20%	4V	C488	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C372	1-104-908-11	TANTAL. CHIP	47uF	20%	4V	C489	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C378	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	C501	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
						C502	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C380	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	C503	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C381	1-164-346-11	CERAMIC CHIP	1uF		16V						
C382	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	C504	1-162-922-11	CERAMIC CHIP	39PF	5%	50V
C383	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C506	1-115-156-11	CERAMIC CHIP	1uF		10V
C384	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C507	1-115-156-11	CERAMIC CHIP	1uF		10V
						C508	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C385	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C509	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C386	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V						
C387	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	C510	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C388	1-162-961-11	CERAMIC CHIP	330PF	10%	50V	C511	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C402	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	C512	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
						C513	1-115-156-11	CERAMIC CHIP	1uF		10V
C404	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V	C514	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C405	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V						
C406	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C515	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C410	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	C516	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C411	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V	C517	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
						C518	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C412	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V	C519	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C414	1-164-156-11	CERAMIC CHIP	0.1uF		25V						
C415	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C520	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C416	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C521	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C417	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C522	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
						C523	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C418	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C524	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C419	1-164-156-11	CERAMIC CHIP	0.1uF		25V						
C420	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C525	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C451	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C526	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C452	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C527	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
						C528	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C453	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C529	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C454	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V						
C455	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V	C530	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C456	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C531	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C457	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V	C532	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
								(EXCEPT TRV3E/TRV13E/TRV23E)			
C458	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C533	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C459	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V			(EXCEPT TRV3E/TRV13E/TRV23E)			
C460	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C552	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C461	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V						
C462	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V						

Ref. No.	Part No.	Description	Remark		
C553	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C554	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C555	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C556	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C557	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C558	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C559	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C560	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C561	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C562	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C563	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C564	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C565	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C566	1-115-156-11	CERAMIC CHIP	1uF		10V
C567	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C569	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C570	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C571	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C572	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C605	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C607	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C610	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C611	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C612	1-119-749-11	TANTAL. CHIP	33uF	20%	4V
C613	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C615	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C616	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C617	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C618	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C619	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C620	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C621	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C622	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C623	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C624	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C625	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C626	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C627	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C628	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C629	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C630	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C634	1-164-156-11	CERAMIC CHIP	0.1uF		25V
(EXCEPT TRV3E/TRV13E/TRV23E)					
C636	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C637	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C702	1-115-156-11	CERAMIC CHIP	1uF	10%	10V
(TRV69E)					
C703	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
(TRV69E)					
C704	1-162-924-11	CERAMIC CHIP	56PF	5%	50V
(TRV69E)					
C705	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
(TRV69E)					
C706	1-162-923-11	CERAMIC CHIP	47pF	5%	50V
(TRV69E)					
C707	1-162-915-11	CERAMIC CHIP	10pF	0.5pF	50V
(TRV69E)					
C708	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
(TRV69E)					
C709	1-164-156-11	CERAMIC CHIP	0.1uF		25V
(TRV69E)					

Ref. No.	Part No.	Description	Remark		
C710	1-135-201-11	TANTAL CHIP	10MF	20%	4V
(TRV69E)					
C711	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
(TRV69E)					
C712	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
(TRV69E)					
C713	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
(TRV69E)					
C714	1-162-964-11	CERAMIC CHIP	0.001uF	10%	25V
(TRV69E)					
C715	1-164-156-11	CERAMIC CHIP	0.1uF		25V
(TRV69E)					
C716	1-164-156-11	CERAMIC CHIP	0.1uF		25V
(TRV69E)					
C751	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
(TRV75/TRV75PK/TRV715)					
C752	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
(TRV75/TRV75PK/TRV715)					
C753	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
(TRV75/TRV75PK/TRV715)					
C754	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
(TRV75/TRV75PK/TRV715)					
C755	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
(TRV75/TRV75PK/TRV715)					
C756	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
(TRV75/TRV75PK/TRV715)					
C757	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
(TRV75/TRV75PK/TRV715)					
C758	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
(TRV75/TRV75PK/TRV715)					
C759	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
(TRV75/TRV75PK/TRV715)					
C760	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
(TRV75/TRV75PK/TRV715)					
C761	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
(TRV75/TRV75PK/TRV715)					
C762	1-164-668-11	CERAMIC CHIP	510PF	5%	50V
(TRV75/TRV75PK/TRV715)					
C763	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
(TRV75/TRV75PK/TRV715)					
C764	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
(TRV75/TRV75PK/TRV715)					
C765	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
(TRV75/TRV75PK/TRV715)					
C766	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
(TRV75/TRV75PK/TRV715)					
C767	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
(TRV75/TRV75PK/TRV715)					
C768	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
(TRV75/TRV75PK/TRV715)					
C769	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
(TRV75/TRV75PK/TRV715)					
C770	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
(TRV75/TRV75PK/TRV715)					
C771	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
(TRV75/TRV75PK/TRV715)					
C772	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
(TRV75/TRV75PK/TRV715)					
C773	1-162-922-11	CERAMIC CHIP	39PF	5%	50V
(TRV75/TRV75PK/TRV715)					
C774	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
(TRV75/TRV75PK/TRV715)					
C775	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
(TRV75/TRV75PK/TRV715)					

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C776	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V (TRV75/TRV75PK/TRV715)		FB205	1-414-228-11	INDUCTOR CHIP 0UH (TRV55E/TRV65E/TRV75/TRV75PK/TRV715)	
C777	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V (TRV75/TRV75PK/TRV715)		FB206	1-414-228-11	INDUCTOR CHIP 0UH	
C778	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V (TRV75/TRV75PK/TRV715)		FB501	1-414-228-11	INDUCTOR CHIP 0UH	
C781	1-104-847-11	TANTAL. CHIP 22uF 20% 4V (TRV75/TRV75PK/TRV715)		FB503	1-500-284-21	INDUCTOR CHIP 0UH	
		< CONNECTOR >		FB504	1-500-284-21	INDUCTOR CHIP 0UH	
CN001	1-766-677-21	CONNECTOR, FFC/FPC 16P		FB505	1-500-284-21	INDUCTOR CHIP 0UH (TRV3E/TRV13E/TRV23E)	
CN501	1-779-332-11	CONNECTOR, FFC/FPC 16P		FB506	1-414-228-11	INDUCTOR CHIP 0UH	
CN551	1-766-353-21	CONNECTOR, FFC/FPC 23P (TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/TRV65E/TRV69E)		FB701	1-414-228-11	INDUCTOR CHIP 0UH (TRV69E)	
CN901	1-766-644-21	CONNECTOR, FFC/FPC 8P		FB702	1-414-921-11	INDUCTOR CHIP 0UH (TRV69E)	
CN902	1-766-673-21	CONNECTOR, FFC/FPC 12P				< IC >	
CN903	1-766-353-21	CONNECTOR, FFC/FPC 23P		IC001	8-752-079-46	IC CXA2084R-T6	
CN904	1-691-374-11	CONNECTOR, FFC/FPC 10P		IC151	8-752-078-82	IC CXA2030R-T6	
CN905	1-766-646-21	CONNECTOR, FFC/FPC 10P		IC152	8-759-169-02	IC MB88344BPFV-G-BND-ER	
CN906	1-766-673-21	CONNECTOR, FFC/FPC 12P		IC201	8-759-494-73	IC MB90097PFV-G-104-ER	
CN907	1-766-346-21	CONNECTOR, FFC/FPC 16P		IC202	8-759-494-55	IC MB87F126DPFF-G-BND	
CN908	1-766-345-21	CONNECTOR, FFC/FPC 15P		IC204	8-752-389-54	IC CXD3124R-T6 (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
CN909	1-766-621-21	CONNECTOR, FFC/FPC 10P (EXCEPT TRV3E/TRV13E/TRV23E)		IC204	8-752-390-53	IC CXD3131R-T6 (TRV55E)	
CN910	1-766-346-21	CONNECTOR, FFC/FPC 16P		IC301	8-759-494-29	IC AN2982FH-EB (EXCEPT TRV3E/TRV13E/TRV23E)	
CN911	1-778-637-21	CONNECTOR, FFC/FPC (ZIF) 50P		IC301	8-759-494-30	IC AN2984FH-EB (TRV3E/TRV13E/TRV23E)	
CN912	1-766-677-21	CONNECTOR, FFC/FPC 16P		IC371	8-759-494-52	IC BA7783FS-E2	
CN914	1-691-542-21	CONNECTOR, BOARD TO BOARD 48P		IC401	8-759-445-94	IC AK6480AM-E2	
		< DIODE >		IC402	8-759-529-57	IC MB91191PFF-G-108-BND	
D002	8-719-404-49	DIODE MA111-TX (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)		IC451	8-759-327-67	IC LB1950V-TLM	
D201	8-719-055-86	DIODE KV1470TL1-3		IC452	8-759-327-62	IC TA8482FN-EL (EXCEPT TRV75/TRV75PK/TRV715)	
D202	8-719-055-86	DIODE KV1470TL1-3		IC452	8-759-327-61	IC LB8112V-TLM (TRV75/TRV75PK/TRV715)	
D371	8-719-404-49	DIODE MA111-TX		IC501	8-752-384-70	IC CXD2486R-T4	
D502	8-713-102-28	DIODE 1T379-04-T8A		IC502	8-759-462-43	IC AD9800JCSTRL	
D551	8-719-404-49	DIODE MA111-TX		IC551	8-759-444-87	IC NJM324V(TE2)	
D601	8-719-421-27	DIODE MA728-TX		IC552	8-759-475-79	IC uPD16833AG3-E2 (EXCEPT TRV75/TRV75PK/TRV715)	
D602	8-719-421-27	DIODE MA728-TX		IC552	8-759-351-46	IC MPC17A34RVMEL (TRV75/TRV75PK/TRV715)	
D604	8-719-404-49	DIODE MA111-TX		IC602	8-759-424-79	IC S-8423YFS-T2	
D608	8-719-404-49	DIODE MA111-TX		IC603	8-759-059-05	IC TL1596CPW-ELM1000	
D609	8-719-049-09	DIODE 1SS367-T3SONY		IC604	8-759-532-17	IC S579214PZ-TEB	
D610	8-719-421-27	DIODE MA728-TX		IC701	8-759-421-52	IC MB87B110CPFV-G-BND-ER (TRV69E)	
D910	8-719-059-57	DIODE MAZJ082DFLSO (EXCEPT TRV3E/TRV13E/TRV23E)		IC751	8-759-498-52	IC LA9511W-TBM (TRV75/TRV75PK/TRV715)	
D911	8-719-420-14	DIODE MA8082-TX (EXCEPT TRV3E/TRV13E/TRV23E)				< COIL >	
		< FERRITE BEAD >		L001	1-414-406-11	INDUCTOR 220uH	
FB001	1-414-229-11	INDUCTOR CHIP 0UH		L002	1-412-952-11	INDUCTOR 12uH	
FB002	1-414-229-11	INDUCTOR CHIP 0UH		L003	1-414-406-11	INDUCTOR 220uH	
FB003	1-414-229-11	INDUCTOR CHIP 0UH		L004	1-414-754-11	INDUCTOR 10uH	
FB004	1-414-229-11	INDUCTOR CHIP 0UH		L005	1-412-948-11	INDUCTOR 5.6uH	
FB151	1-414-228-11	INDUCTOR CHIP 0UH		L006	1-412-963-11	INDUCTOR 100uH	
FB152	1-414-921-11	INDUCTOR CHIP 0UH		L008	1-412-280-31	INDUCTOR 330uH	
FB201	1-414-228-11	INDUCTOR CHIP 0UH		L009	1-410-656-11	INDUCTOR CHIP 150uH	
FB202	1-414-228-11	INDUCTOR CHIP 0UH		L010	1-410-657-21	INDUCTOR CHIP 180uH	
FB203	1-414-228-11	INDUCTOR CHIP 0UH		L011	1-412-956-21	INDUCTOR 27uH (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
FB204	1-414-228-11	INDUCTOR CHIP 0UH (TRV55E/TRV65E/TRV75/TRV75PK/TRV715)		L012	1-412-955-11	INDUCTOR 22uH	
				L013	1-412-944-11	INDUCTOR 2.7uH	
				L015	1-412-951-11	INDUCTOR 10uH	
				L016	1-412-946-11	INDUCTOR 3.9uH	
				L017	1-414-754-11	INDUCTOR 10uH	

Ref. No.	Part No.	Description	Remark
L018	1-410-656-11	INDUCTOR CHIP 150uH	
L019	1-412-957-11	INDUCTOR 33uH	
L152	1-412-937-11	INDUCTOR 0.68uH	
		(TRV45E/TRV55E/TRV65E/TRV69E)	
L152	1-412-939-11	INDUCTOR 1uH	
		(TRV75/TRV75PK/TRV715)	
L153	1-414-754-11	INDUCTOR 10uH	
L154	1-414-754-11	INDUCTOR 10uH	
L155	1-414-754-11	INDUCTOR 10uH	
L156	1-414-754-11	INDUCTOR 10uH	
L201	1-414-754-11	INDUCTOR 10uH	
L202	1-414-754-11	INDUCTOR 10uH	
L203	1-414-754-11	INDUCTOR 10uH	
L204	1-410-658-31	INDUCTOR CHIP 220uH	
L205	1-412-955-11	INDUCTOR 22uH	
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
L205	1-412-957-11	INDUCTOR 33uH	
		(TRV3E/TRV13E/TRV23E/TRV45E/TRV55E)	
L206	1-412-945-11	INDUCTOR 3.3uH	
L207	1-414-754-11	INDUCTOR 10uH	
L209	1-414-754-11	INDUCTOR 10uH	
L402	1-414-754-11	INDUCTOR 10uH	
L501	1-414-398-11	INDUCTOR 10uH	
L502	1-216-295-91	SHORT 0 (TRV3E/TRV13E/TRV23E)	
L502	1-412-955-11	INDUCTOR 22uH	
		(EXCEPT TRV3E/TRV13E/TRV23E)	
L552	1-414-398-11	INDUCTOR 10uH	
L553	1-414-754-11	INDUCTOR 10uH	
L555	1-414-754-11	INDUCTOR 10uH	
L602	1-414-754-11	INDUCTOR 10uH	
L701	1-414-754-11	INDUCTOR 10uH (TRV69E)	
L702	1-412-950-11	INDUCTOR 8.2uH (TRV69E)	
L704	1-410-658-31	INDUCTOR CHIP 220uH (TRV69E)	
L751	1-412-948-11	INDUCTOR 5.6uH	
		(TRV75/TRV75PK/TRV715)	
L752	1-412-957-11	INDUCTOR 33uH	
		(TRV75/TRV75PK/TRV715)	
L753	1-412-957-11	INDUCTOR 33uH	
		(TRV75/TRV75PK/TRV715)	
< TRANSISTOR >			
Q001	8-729-031-69	TRANSISTOR 2SA1965-TL	
Q002	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)	
Q003	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)	
Q004	8-729-031-69	TRANSISTOR 2SA1965-TL	
		(TRV75/TRV75PK/TRV715)	
Q005	8-729-031-69	TRANSISTOR 2SA1965-TL	
		(TRV75/TRV75PK/TRV715)	
Q006	8-729-031-69	TRANSISTOR 2SA1965-TL	
		(TRV75/TRV75PK/TRV715)	
Q007	8-729-031-69	TRANSISTOR 2SA1965-TL	
		(TRV75/TRV75PK/TRV715)	
Q008	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
		(TRV75/TRV75PK/TRV715)	
Q009	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
		(TRV75/TRV75PK/TRV715)	
Q010	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
		(TRV75/TRV75PK/TRV715)	
Q011	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
		(TRV75/TRV75PK/TRV715)	
Q012	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	

Ref. No.	Part No.	Description	Remark
Q017	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
Q018	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3) (TRV69E)	
Q019	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q020	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
Q021	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
Q022	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
Q023	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
Q024	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
Q025	8-729-037-89	TRANSISTOR 2SC4627J-C(K8).SO	
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
Q026	8-729-031-69	TRANSISTOR 2SA1965-TL	
		(TRV75/TRV75PK/TRV715)	
Q027	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)	
Q028	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q029	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)	
Q030	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)	
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
Q032	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)	
Q033	8-729-031-69	TRANSISTOR 2SA1965-TL	
Q034	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)	
Q036	8-729-037-89	TRANSISTOR 2SC4627J-C(K8).SO	
Q038	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q039	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
Q040	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q041	8-729-230-72	TRANSISTOR 2SA1362-YG-EL	
Q042	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q043	8-729-031-69	TRANSISTOR 2SA1965-TL	
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
Q044	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
Q151	8-729-037-61	TRANSISTOR RN2104F(TPL3)	
Q153	8-729-040-77	TRANSISTOR 2SC5376-B(TE85L)	
Q154	8-729-040-77	TRANSISTOR 2SC5376-B(TE85L)	
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
Q156	8-729-040-77	TRANSISTOR 2SC5376-B(TE85L)	
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
Q202	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
Q203	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)	
Q204	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
Q205	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q208	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
		(TRV65E/TRV69E/TRV75/TRV75PK/TRV715)	
Q213	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
Q214	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
Q215	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
Q217	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)	
Q301	8-729-042-74	TRANSISTOR UN9216J-(K8).SO	
		(EXCEPT TRV3E/TRV13E/TRV23E)	
Q302	8-729-042-74	TRANSISTOR UN9216J-(K8).SO	
Q305	8-729-037-63	TRANSISTOR UN9115J-(K8).SO	
Q306	8-729-037-76	TRANSISTOR UN9215J-(K8).SO	
Q307	8-729-037-76	TRANSISTOR UN9215J-(K8).SO	
		(EXCEPT TRV3E/TRV13E/TRV23E)	
Q308	8-729-037-61	TRANSISTOR RN2104F(TPL3)	
Q309	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
Q310	8-729-037-74	TRANSISTOR UN9213J-(K8).SO	
		(TRV75/TRV75PK/TRV715)	
Q371	8-729-042-74	TRANSISTOR UN9216J-(K8).SO	
Q372	8-729-042-74	TRANSISTOR UN9216J-(K8).SO	
		(EXCEPT TRV3E/TRV13E/TRV23E)	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q452	8-729-037-74	TRANSISTOR UN9213J-(K8).SO		R029	1-216-837-11	METAL CHIP 22K 5%	1/16W
Q453	8-729-037-74	TRANSISTOR UN9213J-(K8).SO		R031	1-216-837-11	METAL CHIP 22K 5%	1/16W
Q454	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)		R032	1-216-816-11	METAL CHIP 390 5%	1/16W
Q455	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)		R033	1-216-816-11	METAL CHIP 390 5%	1/16W
Q456	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)		R034	1-216-864-11	METAL CHIP 0 5%	1/16W (EXCEPT TRV69E)
Q501	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)		R035	1-216-841-11	METAL CHIP 47K 5%	1/16W
Q551	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)		R037	1-216-824-11	METAL CHIP 1.8K 5%	1/16W
Q552	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)		R038	1-216-841-11	METAL CHIP 47K 5%	1/16W
Q553	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)		R039	1-216-824-11	METAL CHIP 1.8K 5%	1/16W
Q607	8-729-041-43	TRANSISTOR HN1L02FU(TE85R)		R040	1-216-864-11	METAL CHIP 0 5%	1/16W
Q608	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)		R043	1-216-833-11	METAL CHIP 10K 5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)
Q609	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3) (TRV75/TRV75PK/TRV715)		R045	1-216-845-11	METAL CHIP 100K 5%	1/16W
Q610	8-729-037-74	TRANSISTOR UN9213J-(K8).SO		R046	1-216-821-11	METAL CHIP 1K 5%	1/16W
Q611	8-729-037-74	TRANSISTOR UN9213J-(K8).SO (TRV75/TRV75PK/TRV715)		R047	1-216-864-11	METAL CHIP 0 5%	1/16W (EXCEPT TRV69E)
Q619	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3) (EXCEPT TRV3E/TRV13E/TRV23E)		R048	1-216-864-11	METAL CHIP 0 5%	1/16W (EXCEPT TRV69E)
Q620	8-729-042-58	TRANSISTOR UN9111J-(K8).SO		R049	1-216-833-11	METAL CHIP 10K 5%	1/16W
Q701	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3) (TRV69E)		R050	1-216-837-11	METAL CHIP 22K 5%	1/16W
Q702	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3) (TRV69E)		R051	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
Q703	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3) (TRV69E)		R052	1-216-833-11	METAL CHIP 10K 5%	1/16W
Q704	8-729-037-61	TRANSISTOR RN2104(TPL3) (TRV69E)		R055	1-216-830-11	METAL CHIP 5.6K 5%	1/16W (EXCEPT TRV75/TRV75PK/TRV715)
Q705	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3) (TRV69E)		R055	1-216-829-11	METAL CHIP 4.7K 5%	1/16W (TRV75/TRV75PK/TRV715)
< RESISTOR >				R056	1-216-855-11	METAL CHIP 680K 5%	1/16W
R001	1-216-864-11	METAL CHIP 0 5%	1/16W (EXCEPT TRV75/TRV75PK/TRV715)	R057	1-216-819-11	METAL CHIP 680 5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)
R002	1-216-864-11	METAL CHIP 0 5%	1/16W (EXCEPT TRV75/TRV75PK/TRV715)	R057	1-216-864-11	METAL CHIP 0 5%	1/16W (TRV3E/TRV13E/TRV23E/TRV45E/TRV55E)
R003	1-216-806-11	RES.CHIP 56 5%	1/16W	R058	1-216-853-11	METAL CHIP 470K 5%	1/16W
R004	1-216-818-11	METAL CHIP 560 5%	1/16W	R059	1-216-821-11	METAL CHIP 1K 5%	1/16W
R005	1-216-809-11	METAL CHIP 100 5%	1/16W	R060	1-216-837-11	METAL CHIP 22K 5%	1/16W
R006	1-216-825-11	METAL CHIP 2.2K 5%	1/16W	R061	1-216-833-11	METAL CHIP 10K 5%	1/16W
R007	1-216-829-11	METAL CHIP 4.7K 5%	1/16W	R062	1-216-818-11	METAL CHIP 560 5%	1/16W
R008	1-216-814-11	METAL CHIP 270 5%	1/16W	R063	1-216-817-11	METAL CHIP 470 5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)
R009	1-216-813-11	METAL CHIP 220 5%	1/16W	R063	1-216-818-11	METAL CHIP 560 5%	1/16W (TRV3E/TRV13E/TRV23E/TRV45E/TRV55E)
R010	1-216-828-11	METAL CHIP 3.9K 5%	1/16W (TRV75/TRV75PK/TRV715)	R064	1-216-828-11	METAL CHIP 3.9K 5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)
R011	1-216-828-11	METAL CHIP 3.9K 5%	1/16W (TRV75/TRV75PK/TRV715)	R064	1-216-864-11	METAL CHIP 0 5%	1/16W (TRV3E/TRV13E/TRV23E/TRV45E/TRV55E)
R012	1-216-828-11	METAL CHIP 3.9K 5%	1/16W (TRV75/TRV75PK/TRV715)	R065	1-216-833-11	METAL CHIP 10K 5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)
R013	1-216-828-11	METAL CHIP 3.9K 5%	1/16W (TRV75/TRV75PK/TRV715)	R066	1-216-823-11	METAL CHIP 1.5K 5%	1/16W (EXCEPT TRV75/TRV75PK/TRV715)
R014	1-216-837-11	METAL CHIP 22K 5%	1/16W	R066	1-216-825-11	METAL CHIP 2.2K 5%	1/16W (TRV75/TRV75PK/TRV715)
R015	1-216-839-11	METAL CHIP 33K 5%	1/16W	R067	1-216-817-11	METAL CHIP 470 5%	1/16W
R016	1-216-829-11	METAL CHIP 4.7K 5%	1/16W (TRV75/TRV75PK/TRV715)	R068	1-216-817-11	METAL CHIP 470 5%	1/16W
R017	1-216-829-11	METAL CHIP 4.7K 5%	1/16W (TRV75/TRV75PK/TRV715)	R069	1-216-864-11	METAL CHIP 0 5%	1/16W
R018	1-216-829-11	METAL CHIP 4.7K 5%	1/16W (TRV75/TRV75PK/TRV715)	R072	1-216-864-11	METAL CHIP 0 5%	1/16W
R019	1-216-829-11	METAL CHIP 4.7K 5%	1/16W (TRV75/TRV75PK/TRV715)	R073	1-216-821-11	METAL CHIP 1K 5%	1/16W
R020	1-216-837-11	METAL CHIP 22K 5%	1/16W	R074	1-216-816-11	METAL CHIP 390 5%	1/16W
R021	1-216-837-11	METAL CHIP 22K 5%	1/16W	R075	1-216-817-11	METAL CHIP 470 5%	1/16W
R023	1-216-837-11	METAL CHIP 22K 5%	1/16W	R076	1-216-816-11	METAL CHIP 390 5%	1/16W
R025	1-216-837-11	METAL CHIP 22K 5%	1/16W	R077	1-216-814-11	METAL CHIP 270 5%	1/16W (TRV3E/TRV13E/TRV23E/TRV45E/TRV55E)
R026	1-216-816-11	METAL CHIP 390 5%	1/16W				
R027	1-216-816-11	METAL CHIP 390 5%	1/16W				

Ref. No.	Part No.	Description	Remark		
R078	1-216-815-11	METAL CHIP	330	5%	1/16W (TRV75/TRV75PK/TRV715)
R078	1-216-817-11	METAL CHIP	470	5%	1/16W (TRV65E/TRV69E)
R079	1-216-815-11	METAL CHIP	330	5%	1/16W (TRV75/TRV75PK/TRV715)
R079	1-216-817-11	METAL CHIP	470	5%	1/16W (TRV65E/TRV69E)
R080	1-216-813-11	METAL CHIP	220	5%	1/16W (TRV75/TRV75PK/TRV715)
R080	1-216-821-11	METAL CHIP	1K	5%	1/16W (TRV65E/TRV69E)
R081	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R082	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R083	1-216-820-11	METAL CHIP	820	5%	1/16W (TRV75/TRV75PK/TRV715)
R083	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV65E/TRV69E)
R084	1-216-833-11	METAL CHIP	10K	5%	1/16W (TRV75/TRV75PK/TRV715)
R085	1-216-833-11	METAL CHIP	10K	5%	1/16W
R087	1-216-821-11	METAL CHIP	1K	5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)
R088	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)
R092	1-216-809-11	METAL CHIP	100	5%	1/16W
R093	1-216-833-11	METAL CHIP	10K	5%	1/16W
R094	1-216-814-11	METAL CHIP	270	5%	1/16W (TRV65E/TRV69E)
R094	1-216-815-11	METAL CHIP	330	5%	1/16W (TRV75/TRV75PK/TRV715)
R095	1-216-839-11	METAL CHIP	33K	5%	1/16W
R096	1-216-813-11	METAL CHIP	220	5%	1/16W
R098	1-216-817-11	METAL CHIP	470	5%	1/16W
R099	1-216-817-11	METAL CHIP	470	5%	1/16W
R101	1-216-837-11	METAL CHIP	22K	5%	1/16W
R102	1-216-834-11	METAL CHIP	12K	5%	1/16W
R103	1-216-816-11	METAL CHIP	390	5%	1/16W
R104	1-216-828-11	METAL CHIP	3.9K	5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)
R105	1-216-814-11	METAL CHIP	270	5%	1/16W (TRV3E/TRV13E/TRV23E/TRV45E/TRV55E)
R105	1-216-819-11	METAL CHIP	680	5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)
R106	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R107	1-216-833-11	METAL CHIP	10K	5%	1/16W
R109	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R110	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R112	1-216-833-11	METAL CHIP	10K	5%	1/16W
R113	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R152	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R154	1-216-822-11	METAL CHIP	1.2K	5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)
R157	1-216-822-11	METAL CHIP	1.2K	5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)
R161	1-216-804-11	METAL CHIP	39	5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)
R162	1-216-803-11	METAL CHIP	33	5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)
R165	1-216-803-11	METAL CHIP	33	5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)

Ref. No.	Part No.	Description	Remark		
R166	1-216-804-11	METAL CHIP	39	5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)
R167	1-216-803-11	METAL CHIP	33	5%	1/16W
R170	1-216-804-11	METAL CHIP	39	5%	1/16W
R175	1-216-836-11	METAL CHIP	18K	5%	1/16W (EXCEPT TRV75/TRV75PK/TRV715)
R175	1-216-837-11	METAL CHIP	22K	5%	1/16W (TRV75/TRV75PK/TRV715)
R176	1-216-837-11	METAL CHIP	22K	5%	1/16W (EXCEPT TRV3E/TRV13E/TRV23E)
R177	1-216-821-11	METAL CHIP	1K	5%	1/16W
R178	1-216-821-11	METAL CHIP	1K	5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)
R179	1-216-815-11	METAL CHIP	330	5%	1/16W
R180	1-216-815-11	METAL CHIP	330	5%	1/16W (TRV65E/TRV69E/TRV75/TRV75PK/TRV715)
R183	1-218-876-11	RES,CHIP	16K	0.50%	1/16W
R184	1-218-847-11	RES,CHIP	1K	0.50%	1/16W
R202	1-216-833-11	METAL CHIP	10K	5%	1/16W
R203	1-216-814-11	METAL CHIP	270	5%	1/16W
R205	1-216-835-11	METAL CHIP	15K	5%	1/16W
R206	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R208	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R210	1-216-809-11	METAL CHIP	100	5%	1/16W
R211	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R212	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R214	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R215	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R216	1-216-811-11	METAL CHIP	150	5%	1/16W
R217	1-216-864-11	METAL CHIP	0	5%	1/16W (TRV3E/TRV13E/TRV23E)
R218	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R219	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R220	1-216-815-11	METAL CHIP	330	5%	1/16W
R223	1-216-821-11	METAL CHIP	1K	5%	1/16W
R224	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R225	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R226	1-216-820-11	METAL CHIP	820	5%	1/16W
R227	1-216-811-11	METAL CHIP	150	5%	1/16W
R228	1-216-813-11	METAL CHIP	220	5%	1/16W
R229	1-216-805-11	METAL CHIP	47	5%	1/16W
R230	1-216-812-11	METAL CHIP	180	5%	1/16W
R231	1-216-812-11	METAL CHIP	180	5%	1/16W
R232	1-216-815-11	METAL CHIP	330	5%	1/16W
R233	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R234	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R236	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R237	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R238	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R239	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R240	1-216-857-11	METAL CHIP	1M	5%	1/16W
R241	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R242	1-216-845-11	METAL CHIP	100K	5%	1/16W
R243	1-216-845-11	METAL CHIP	100K	5%	1/16W
R244	1-216-845-11	METAL CHIP	100K	5%	1/16W
R245	1-216-840-11	METAL CHIP	39K	5%	1/16W
R246	1-216-835-11	METAL CHIP	15K	5%	1/16W
R247	1-216-817-11	METAL CHIP	470	5%	1/16W
R248	1-216-822-11	METAL CHIP	1.2K	5%	1/16W

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
R249	1-216-833-11	METAL CHIP	10K	5%	1/16W	R403	1-216-845-11	METAL CHIP	100K	5%	1/16W
R250	1-216-295-91	SHORT	0			R404	1-216-845-11	METAL CHIP	100K	5%	1/16W
		(EXCEPT TRV3E/TRV13E/TRV23E)									
R251	1-216-833-11	METAL CHIP	10K	5%	1/16W	R405	1-216-845-11	METAL CHIP	100K	5%	1/16W
R252	1-216-821-11	METAL CHIP	1K	5%	1/16W	R406	1-216-845-11	METAL CHIP	100K	5%	1/16W
R253	1-216-845-11	METAL CHIP	100K	5%	1/16W	R407	1-216-845-11	METAL CHIP	100K	5%	1/16W
R254	1-216-864-11	METAL CHIP	0	5%	1/16W	R409	1-216-845-11	METAL CHIP	100K	5%	1/16W
		(EXCEPT TRV55E)				R410	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R255	1-216-833-11	METAL CHIP	10K	5%	1/16W	R412	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R256	1-216-845-11	METAL CHIP	100K	5%	1/16W	R414	1-216-864-11	METAL CHIP	0	5%	1/16W
R257	1-216-295-91	SHORT	0			R415	1-216-821-11	METAL CHIP	1K	5%	1/16W
R302	1-216-817-11	METAL CHIP	470	5%	1/16W	R416	1-216-821-11	METAL CHIP	1K	5%	1/16W
		(EXCEPT TRV3E/TRV13E/TRV23E)				R417	1-216-821-11	METAL CHIP	1K	5%	1/16W
R303	1-216-817-11	METAL CHIP	470	5%	1/16W	R418	1-216-821-11	METAL CHIP	1K	5%	1/16W
R304	1-216-817-11	METAL CHIP	470	5%	1/16W	R419	1-216-839-11	METAL CHIP	33K	5%	1/16W
R305	1-216-817-11	METAL CHIP	470	5%	1/16W	R420	1-216-833-11	METAL CHIP	10K	5%	1/16W
		(EXCEPT TRV3E/TRV13E/TRV23E)				R421	1-216-833-11	METAL CHIP	10K	5%	1/16W
R308	1-216-864-11	METAL CHIP	0	5%	1/16W	R424	1-216-841-11	METAL CHIP	47K	5%	1/16W
		(TRV3E/TRV13E/TRV23E)				R425	1-216-853-11	METAL CHIP	470K	5%	1/16W
R311	1-216-841-11	METAL CHIP	47K	5%	1/16W	R426	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R313	1-216-864-11	METAL CHIP	0	5%	1/16W	R427	1-216-841-11	METAL CHIP	47K	5%	1/16W
R314	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	R428	1-216-841-11	METAL CHIP	47K	5%	1/16W
R315	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	R429	1-216-811-11	METAL CHIP	150	5%	1/16W
		(EXCEPT TRV3E/TRV13E/TRV23E)				R430	1-216-813-11	METAL CHIP	220	5%	1/16W
R316	1-216-841-11	METAL CHIP	47K	5%	1/16W	R431	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
		(EXCEPT TRV3E/TRV13E/TRV23E)				R432	1-216-845-11	METAL CHIP	100K	5%	1/16W
R317	1-216-845-11	METAL CHIP	100K	5%	1/16W	R433	1-216-845-11	METAL CHIP	100K	5%	1/16W
R318	1-216-845-11	METAL CHIP	100K	5%	1/16W	R434	1-216-853-11	METAL CHIP	470K	5%	1/16W
R319	1-216-845-11	METAL CHIP	100K	5%	1/16W	R435	1-216-853-11	METAL CHIP	470K	5%	1/16W
		(EXCEPT TRV3E/TRV13E/TRV23E)				R440	1-216-841-11	METAL CHIP	47K	5%	1/16W
R320	1-216-849-11	METAL CHIP	220K	5%	1/16W	R441	1-216-845-11	METAL CHIP	100K	5%	1/16W
		(EXCEPT TRV3E/TRV13E/TRV23E)				R452	1-217-671-11	METAL CHIP	1	5%	1/10W
R321	1-216-843-11	METAL CHIP	68K	5%	1/16W	R453	1-217-671-11	METAL CHIP	1	5%	1/10W
R322	1-216-845-11	METAL CHIP	100K	5%	1/16W	R454	1-217-671-11	METAL CHIP	1	5%	1/10W
		(TRV3E/TRV13E/TRV23E)				R455	1-216-833-11	METAL CHIP	10K	5%	1/16W
R322	1-216-849-11	METAL CHIP	220K	5%	1/16W	R456	1-216-833-11	METAL CHIP	10K	5%	1/16W
		(EXCEPT TRV3E/TRV13E/TRV23E)				R457	1-216-833-11	METAL CHIP	10K	5%	1/16W
R323	1-216-837-11	METAL CHIP	22K	5%	1/16W	R458	1-216-808-11	METAL CHIP	82	5%	1/16W
R325	1-216-849-11	METAL CHIP	220K	5%	1/16W						
		(TRV3E/TRV13E/TRV23E)				R459	1-216-864-11	METAL CHIP	0	5%	1/16W
R325	1-216-851-11	METAL CHIP	330K	5%	1/16W	R460	1-216-864-11	METAL CHIP	0	5%	1/16W
		(EXCEPT TRV3E/TRV13E/TRV23E)				R461	1-216-853-11	METAL CHIP	470K	5%	1/16W
R328	1-162-925-11	CERAMIC CHIP	68PF	5%	50V	R462	1-216-853-11	METAL CHIP	470K	5%	1/16W
R331	1-216-820-11	METAL CHIP	820	5%	1/16W	R463	1-216-853-11	METAL CHIP	470K	5%	1/16W
R343	1-216-864-11	METAL CHIP	0	5%	1/16W	R464	1-216-851-11	METAL CHIP	330K	5%	1/16W
		(EXCEPT TRV3E/TRV13E/TRV23E)				R465	1-216-845-11	METAL CHIP	100K	5%	1/16W
R371	1-216-821-11	METAL CHIP	1K	5%	1/16W	R466	1-216-841-11	METAL CHIP	47K	5%	1/16W
R373	1-216-809-11	METAL CHIP	100	5%	1/16W	R467	1-216-833-11	METAL CHIP	10K	5%	1/16W
		(EXCEPT TRV3E/TRV13E/TRV23E)				R468	1-216-833-11	METAL CHIP	10K	5%	1/16W
R374	1-216-809-11	METAL CHIP	100	5%	1/16W	R469	1-216-841-11	METAL CHIP	47K	5%	1/16W
R375	1-216-834-11	METAL CHIP	12K	5%	1/16W	R470	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R376	1-216-834-11	METAL CHIP	12K	5%	1/16W	R471	1-216-833-11	METAL CHIP	10K	5%	1/16W
R377	1-216-834-11	METAL CHIP	12K	5%	1/16W	R472	1-216-837-11	METAL CHIP	22K	5%	1/16W
R378	1-216-825-11	METAL CHIP	2.2K	5%	1/16W			(EXCEPT TRV75/TRV75PK/TRV715)			
R379	1-216-852-11	METAL CHIP	390K	5%	1/16W	R472	1-216-833-11	METAL CHIP	10K	5%	1/16W
R382	1-216-837-11	METAL CHIP	22K	5%	1/16W			(TRV75/TRV75PK/TRV715)			
R383	1-216-837-11	METAL CHIP	22K	5%	1/16W	R473	1-216-841-11	METAL CHIP	47K	5%	1/16W
R384	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	R474	1-216-817-11	METAL CHIP	470	5%	1/16W
R385	1-216-826-11	METAL CHIP	2.7K	5%	1/16W	R475	1-216-838-11	METAL CHIP	27K	5%	1/16W
R386	1-216-849-11	METAL CHIP	220K	5%	1/16W	R476	1-216-817-11	METAL CHIP	470	5%	1/16W
R402	1-216-821-11	METAL CHIP	1K	5%	1/16W	R477	1-216-864-11	METAL CHIP	0	5%	1/16W

Ref. No.	Part No.	Description	Remark		
R479	1-216-864-11	METAL CHIP	0	5%	1/16W
R480	1-216-864-11	METAL CHIP	0	5%	1/16W
R481	1-216-864-11	METAL CHIP	0	5%	1/16W
R482	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
		(EXCEPT TRV75/TRV75PK/TRV715)			
R482	1-216-833-11	METAL CHIP	10K	5%	1/16W
		(TRV75/TRV75PK/TRV715)			
R483	1-216-836-11	METAL CHIP	18K	5%	1/16W
R484	1-217-671-11	METAL CHIP	1	5%	1/10W
R485	1-217-671-11	METAL CHIP	1	5%	1/10W
R486	1-216-845-11	METAL CHIP	100K	5%	1/16W
R487	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R488	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R490	1-216-023-00	METAL CHIP	82	5%	1/10W
R502	1-216-798-11	RES,CHIP	12	5%	1/16W
R503	1-216-798-11	RES,CHIP	12	5%	1/16W
R504	1-216-845-11	METAL CHIP	100K	5%	1/16W
R505	1-216-864-11	METAL CHIP	0	5%	1/16W
R506	1-216-857-11	METAL CHIP	1M	5%	1/16W
R508	1-216-809-11	METAL CHIP	100	5%	1/16W
R509	1-216-864-11	METAL CHIP	0	5%	1/16W
R510	1-216-809-11	METAL CHIP	100	5%	1/16W
R511	1-216-809-11	METAL CHIP	100	5%	1/16W
		(TRV3E/TRV13E/TRV23E)			
R512	1-216-853-11	METAL CHIP	470K	5%	1/16W
R513	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R514	1-216-821-11	METAL CHIP	1K	5%	1/16W
R515	1-216-864-11	METAL CHIP	0	5%	1/16W
R522	1-216-864-11	METAL CHIP	0	5%	1/16W
R525	1-216-864-11	METAL CHIP	0	5%	1/16W
R526	1-216-864-11	METAL CHIP	0	5%	1/16W
R527	1-216-864-11	METAL CHIP	0	5%	1/16W
		(EXCEPT TRV3E/TRV13E/TRV23E)			
R529	1-216-864-11	METAL CHIP	0	5%	1/16W
R551	1-216-841-11	METAL CHIP	47K	5%	1/16W
R554	1-216-843-11	METAL CHIP	68K	5%	1/16W
R555	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R556	1-216-001-00	METAL CHIP	10	5%	1/10W
R557	1-216-843-11	METAL CHIP	68K	5%	1/16W
R558	1-216-295-91	SHORT	0		
R560	1-216-821-11	METAL CHIP	1K	5%	1/16W
R561	1-216-853-11	METAL CHIP	470K	5%	1/16W
R562	1-216-849-11	METAL CHIP	220K	5%	1/16W
R563	1-216-853-11	METAL CHIP	470K	5%	1/16W
R564	1-216-853-11	METAL CHIP	470K	5%	1/16W
R565	1-216-833-11	METAL CHIP	10K	5%	1/16W
R566	1-216-835-11	METAL CHIP	15K	5%	1/16W
R567	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R569	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R570	1-216-841-11	METAL CHIP	47K	5%	1/16W
R571	1-216-837-11	METAL CHIP	22K	5%	1/16W
R572	1-216-845-11	METAL CHIP	100K	5%	1/16W
R573	1-216-815-11	METAL CHIP	330	5%	1/16W
R574	1-216-821-11	METAL CHIP	1K	5%	1/16W
R575	1-216-821-11	METAL CHIP	1K	5%	1/16W
R576	1-216-821-11	METAL CHIP	1K	5%	1/16W
R577	1-216-833-11	METAL CHIP	10K	5%	1/16W
R579	1-216-821-11	METAL CHIP	1K	5%	1/16W
R582	1-216-864-11	METAL CHIP	0	5%	1/16W

Ref. No.	Part No.	Description	Remark		
R603	1-216-845-11	METAL CHIP	100K	5%	1/16W
R604	1-216-813-11	METAL CHIP	220	5%	1/16W
R605	1-216-841-11	METAL CHIP	47K	5%	1/16W
R606	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
		(TRV75/TRV75PK/TRV715)			
R608	1-216-845-11	METAL CHIP	100K	5%	1/16W
R610	1-216-821-11	METAL CHIP	1K	5%	1/16W
R611	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
		(TRV75/TRV75PK/TRV715)			
R612	1-216-853-11	METAL CHIP	470K	5%	1/16W
R613	1-216-821-11	METAL CHIP	1K	5%	1/16W
R614	1-216-821-11	METAL CHIP	1K	5%	1/16W
		(TRV75/TRV75PK/TRV715)			
R618	1-216-853-11	METAL CHIP	470K	5%	1/16W
R619	1-216-853-11	METAL CHIP	470K	5%	1/16W
R620	1-216-853-11	METAL CHIP	470K	5%	1/16W
R621	1-216-853-11	METAL CHIP	470K	5%	1/16W
R622	1-216-853-11	METAL CHIP	470K	5%	1/16W
R624	1-216-853-11	METAL CHIP	470K	5%	1/16W
R625	1-216-845-11	METAL CHIP	100K	5%	1/16W
R627	1-216-853-11	METAL CHIP	470K	5%	1/16W
R628	1-216-841-11	METAL CHIP	47K	5%	1/16W
R629	1-216-833-11	METAL CHIP	10K	5%	1/16W
R630	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R631	1-216-845-11	METAL CHIP	100K	5%	1/16W
R632	1-216-857-11	METAL CHIP	1M	5%	1/16W
R633	1-216-853-11	METAL CHIP	470K	5%	1/16W
R634	1-216-853-11	METAL CHIP	470K	5%	1/16W
R635	1-216-857-11	METAL CHIP	1M	5%	1/16W
R636	1-216-857-11	METAL CHIP	1M	5%	1/16W
R637	1-216-845-11	METAL CHIP	100K	5%	1/16W
R638	1-216-845-11	METAL CHIP	100K	5%	1/16W
R639	1-216-845-11	METAL CHIP	100K	5%	1/16W
R640	1-216-845-11	METAL CHIP	100K	5%	1/16W
R641	1-216-845-11	METAL CHIP	100K	5%	1/16W
R642	1-216-821-11	METAL CHIP	1K	5%	1/16W
R643	1-216-857-11	METAL CHIP	1M	5%	1/16W
R644	1-216-841-11	METAL CHIP	47K	5%	1/16W
R645	1-216-845-11	METAL CHIP	100K	5%	1/16W
R646	1-216-853-11	METAL CHIP	470K	5%	1/16W
R647	1-216-853-11	METAL CHIP	470K	5%	1/16W
R648	1-216-853-11	METAL CHIP	470K	5%	1/16W
R649	1-216-857-11	METAL CHIP	1M	5%	1/16W
R650	1-219-570-11	RES,CHIP	10M	5%	1/16W
R651	1-216-845-11	METAL CHIP	100K	5%	1/16W
R652	1-216-853-11	METAL CHIP	470K	5%	1/16W
R653	1-216-853-11	METAL CHIP	470K	5%	1/16W
R654	1-216-817-11	METAL CHIP	470	5%	1/16W
R655	1-216-853-11	METAL CHIP	470K	5%	1/16W
R662	1-216-841-11	METAL CHIP	47K	5%	1/16W
		(EXCEPT TRV3E/TRV13E/TRV23E)			
R663	1-216-853-11	METAL CHIP	470K	5%	1/16W
		(EXCEPT TRV3E/TRV13E/TRV23E)			
R665	1-216-853-11	METAL CHIP	470K	5%	1/16W
		(EXCEPT TRV3E/TRV13E/TRV23E)			
R666	1-216-821-11	METAL CHIP	1K	5%	1/16W
R667	1-216-821-11	METAL CHIP	1K	5%	1/16W
R668	1-216-821-11	METAL CHIP	1K	5%	1/16W
R669	1-216-821-11	METAL CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
R670	1-216-821-11	METAL CHIP	1K	5%	1/16W	R720	1-216-821-11	METAL CHIP	1K	5%	1/16W
R671	1-216-821-11	METAL CHIP	1K	5%	1/16W						(TRV69E)
R672	1-216-821-11	METAL CHIP	1K	5%	1/16W	R721	1-216-821-11	METAL CHIP	1K	5%	1/16W
R673	1-216-821-11	METAL CHIP	1K	5%	1/16W						(TRV69E)
R675	1-216-821-11	METAL CHIP	1K	5%	1/16W	R722	1-216-821-11	METAL CHIP	1K	5%	1/16W
R676	1-216-821-11	METAL CHIP	1K	5%	1/16W						(TRV69E)
R677	1-216-821-11	METAL CHIP	1K	5%	1/16W	R723	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
											(TRV69E)
R678	1-216-821-11	METAL CHIP	1K	5%	1/16W	R724	1-216-864-11	SHORT	0		1/16W
R679	1-216-821-11	METAL CHIP	1K	5%	1/16W						(TRV69E)
R680	1-216-845-11	METAL CHIP	100K	5%	1/16W	R725	1-216-821-11	METAL CHIP	1K	5%	1/16W
R681	1-216-821-11	METAL CHIP	1K	5%	1/16W						(TRV69E)
R682	1-216-821-11	METAL CHIP	1K	5%	1/16W	R726	1-216-864-11	METAL CHIP	0	5%	1/16W
											(EXCEPT TRV69E)
R683	1-216-821-11	METAL CHIP	1K	5%	1/16W	R752	1-216-841-11	METAL CHIP	47K	5%	1/16W
R684	1-216-821-11	METAL CHIP	1K	5%	1/16W						(TRV75/TRV75PK/TRV715)
R685	1-216-821-11	METAL CHIP	1K	5%	1/16W	R753	1-216-841-11	METAL CHIP	47K	5%	1/16W
R686	1-216-821-11	METAL CHIP	1K	5%	1/16W						(TRV75/TRV75PK/TRV715)
R687	1-216-821-11	METAL CHIP	1K	5%	1/16W	R755	1-216-837-11	METAL CHIP	22K	5%	1/16W
											(TRV75/TRV75PK/TRV715)
R689	1-216-864-11	METAL CHIP	0	5%	1/16W	R756	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
					(TRV3E/TRV13E/TRV23E)						(TRV75/TRV75PK/TRV715)
R690	1-216-821-11	METAL CHIP	1K	5%	1/16W	R757	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R691	1-216-845-11	METAL CHIP	100K	5%	1/16W						(TRV75/TRV75PK/TRV715)
R692	1-216-853-11	METAL CHIP	470K	5%	1/16W	R758	1-216-833-11	METAL CHIP	10K	5%	1/16W
R693	1-216-821-11	METAL CHIP	1K	5%	1/16W						(TRV75/TRV75PK/TRV715)
R697	1-216-854-11	METAL CHIP	560K	5%	1/16W	R759	1-216-833-11	METAL CHIP	10K	5%	1/16W
R701	1-216-839-11	METAL CHIP	33K	5%	1/16W						(TRV75/TRV75PK/TRV715)
					(TRV69E)	R760	1-216-835-11	METAL CHIP	15K	5%	1/16W
R702	1-216-838-11	METAL CHIP	27K	5%	1/16W						(TRV75/TRV75PK/TRV715)
					(TRV69E)	R761	1-216-857-11	METAL CHIP	1M	5%	1/16W
R703	1-216-821-11	METAL CHIP	1K	5%	1/16W						(TRV75/TRV75PK/TRV715)
					(TRV69E)	R763	1-218-879-11	RES,CHIP	22K	0.50%	1/16W
R704	1-216-819-11	METAL CHIP	680	5%	1/16W						(TRV75/TRV75PK/TRV715)
					(TRV69E)	R764	1-216-815-11	METAL CHIP	330	5%	1/16W
R705	1-216-812-11	METAL CHIP	180	5%	1/16W						(TRV75/TRV75PK/TRV715)
					(TRV69E)	R765	1-216-821-11	METAL CHIP	1K	5%	1/16W
R706	1-216-821-11	METAL CHIP	1K	5%	1/16W						(TRV75/TRV75PK/TRV715)
					(TRV69E)	R767	1-216-817-11	METAL CHIP	470	5%	1/16W
R707	1-216-824-11	METAL CHIP	1.8K	5%	1/16W						(TRV75/TRV75PK/TRV715)
					(TRV69E)	R768	1-216-847-11	METAL CHIP	150K	5%	1/16W
R708	1-216-816-11	METAL CHIP	390	5%	1/16W						(TRV75/TRV75PK/TRV715)
					(TRV69E)	R770	1-216-847-11	METAL CHIP	150K	5%	1/16W
R709	1-216-821-11	METAL CHIP	1K	5%	1/16W						(TRV75/TRV75PK/TRV715)
					(TRV69E)	R771	1-216-818-11	METAL CHIP	560	5%	1/16W
											(TRV75/TRV75PK/TRV715)
R710	1-216-826-11	METAL CHIP	2.7K	5%	1/16W	R772	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
					(TRV69E)						(TRV75/TRV75PK/TRV715)
R711	1-216-820-11	METAL CHIP	820	5%	1/16W	R773	1-216-817-11	METAL CHIP	470	5%	1/16W
					(TRV69E)						(TRV75/TRV75PK/TRV715)
R712	1-216-826-11	METAL CHIP	2.7K	5%	1/16W						
					(TRV69E)	R774	1-216-840-11	METAL CHIP	39K	5%	1/16W
R713	1-216-825-11	METAL CHIP	2.2K	5%	1/16W						(TRV75/TRV75PK/TRV715)
					(TRV69E)	R775	1-216-864-11	METAL CHIP	0	5%	1/16W
R714	1-216-833-11	METAL CHIP	10K	5%	1/16W						(EXCEPT TRV75/TRV75PK/TRV715)
					(TRV69E)	R917	1-216-837-11	METAL CHIP	22K	5%	1/16W
											(EXCEPT TRV45E/TRV55E)
R715	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	R917	1-216-842-11	METAL CHIP	56K	5%	1/16W
					(TRV69E)						(TRV45E/TRV55E)
R716	1-216-819-11	METAL CHIP	680	5%	1/16W						
					(TRV69E)	R918	1-216-843-11	METAL CHIP	68K	5%	1/16W
R717	1-216-821-11	METAL CHIP	1K	5%	1/16W						(TRV45E/TRV55E)
					(TRV69E)	R918	1-216-845-11	METAL CHIP	100K	5%	1/16W
R718	1-216-816-11	METAL CHIP	390	5%	1/16W						(EXCEPT TRV45E/TRV55E)
					(TRV69E)	R919	1-216-833-11	METAL CHIP	10K	5%	1/16W
R719	1-216-817-11	METAL CHIP	470	5%	1/16W						(TRV75/TRV75PK/TRV715)
					(TRV69E)						

Ref. No.	Part No.	Description	Remark		
R919	1-216-841-11	METAL CHIP	47K	5%	1/16W (TRV55E)
R919	1-216-843-11	METAL CHIP	68K	5%	1/16W (TRV65E)
R919	1-216-842-11	METAL CHIP	56K	5%	1/16W (TRV45E)
R919	1-216-845-11	METAL CHIP	100K	5%	1/16W (TRV3E/TRV13E/TRV23E/TRV69E)
R920	1-216-833-11	METAL CHIP	10K	5%	1/16W (TRV69E)
R920	1-216-837-11	METAL CHIP	22K	5%	1/16W (TRV3E/TRV13E/TRV23E)
R920	1-216-842-11	METAL CHIP	56K	5%	1/16W (TRV65E)
R920	1-216-843-11	METAL CHIP	68K	5%	1/16W (TRV45E)
R920	1-216-845-11	METAL CHIP	100K	5%	1/16W (TRV55E/TRV75/TRV75PK/TRV715)
R921	1-216-845-11	METAL CHIP	100K	5%	1/16W
R922	1-217-671-11	METAL CHIP	1	5%	1/10W
R923	1-217-671-11	METAL CHIP	1	5%	1/10W
R924	1-216-821-11	METAL CHIP	1K	5%	1/16W
R925	1-216-821-11	METAL CHIP	1K	5%	1/16W
R926	1-216-864-11	METAL CHIP	0	5%	1/16W (EXCEPT TRV3E/TRV13E/TRV23E)
R928	1-216-821-11	METAL CHIP	1K	5%	1/16W
R929	1-216-864-11	METAL CHIP	0	5%	1/16W
< THERMISTOR >					
TH401	1-809-360-21	THERMISTOR, NTC (2125) (TRV69E)			
< VIBRATOR >					
X151	1-767-029-21	VIBRATOR, CRYSTAL (14.318MHz) (EXCEPT TRV3E/TRV13E/TRV23E)			
X401	1-760-655-41	VIBRATOR, CRYSTAL (20MHz)			
X501	1-760-320-11	VIBRATOR, CRYSTAL (28.6363MHz) (TRV75/TRV75PK/TRV715)			
X501	1-760-321-11	VIBRATOR, CRYSTAL (28.375MHz) (EXCEPT TRV75/TRV75PK/TRV715)			
X601	1-579-907-21	VIBRATOR, CERAMIC (20MHz)			
X602	1-760-458-21	VIBRATOR, CRYSTAL (32.798kHz)			
A-7066-774-A VF-99(HP) BOARD, COMPLETE (EXCEPT TRV75/TRV75PK/TRV715) *****					
A-7066-792-A VF-99(VHL4) BOARD, COMPLETE (TRV75/TRV75PK/TRV715) ***** (Ref. No. 10000 series)					
< CAPACITOR >					
C901	1-107-854-11	TANTAL. CHIP	68uF	20%	6.3V
C902	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C903	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C904	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C905	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C906	1-162-638-11	CERAMIC CHIP	1uF		16V
C907	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C908	1-162-920-11	CERAMIC CHIP	27PF	5%	50V

Ref. No.	Part No.	Description	Remark		
C909	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
△ C910	1-164-758-11	CERAMIC CHIP	0.0039uF	5%	50V
△ C911	1-164-715-11	CERAMIC CHIP	0.0068uF	5%	50V
C912	1-107-854-11	TANTAL. CHIP	68uF	20%	6.3V
C913	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C914	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C915	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C916	1-164-611-11	CERAMIC CHIP	0.001uF	10%	500V
< CONNECTOR >					
CN901	1-573-506-41	CONNECTOR, FPC (NON ZIF) 4P			
CN902	1-580-057-11	PIN, CONNECTOR 4P			
< DIODE >					
D901	8-719-951-21	DIODE PR1102W-TR			
D903	8-719-404-49	DIODE MA111-TX			
< IC >					
IC901	8-759-196-14	IC BA7149F-E2			
< COIL >					
L901	1-412-031-11	INDUCTOR CHIP 47uH			
L902	1-410-387-11	INDUCTOR CHIP 33uH			
△ L903	1-411-697-11	COIL, FERRITE (HLC)			
< TRANSISTOR >					
Q901	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX			
Q902	8-729-106-68	TRANSISTOR 2SD1615-T1GLGK			
Q903	8-729-216-31	TRANSISTOR 2SA1163G-TE85L			
Q904	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX			
< RESISTOR >					
R901	1-216-817-11	METAL CHIP	470	5%	1/16W
R902	1-216-817-11	METAL CHIP	470	5%	1/16W
R903	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R904	1-216-833-11	METAL CHIP	10K	5%	1/16W
R905	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R906	1-216-813-11	METAL CHIP	220	5%	1/16W
R907	1-216-845-11	METAL CHIP	100K	5%	1/16W
R908	1-216-852-11	METAL CHIP	390K	5%	1/16W
R909	1-216-833-11	METAL CHIP	10K	5%	1/16W
R910	1-216-835-11	METAL CHIP	15K	5%	1/16W
R911	1-216-160-00	RES,CHIP	27	5%	1/8W
R912	1-216-857-11	METAL CHIP	1M	5%	1/16W
R913	1-216-820-11	METAL CHIP	820	5%	1/16W
R914	1-216-813-11	METAL CHIP	220	5%	1/16W
R915	1-216-793-11	RES,CHIP	4.7	5%	1/16W
R916	1-218-879-11	RES,CHIP	22K	0.50%	1/16W (TRV75/TRV75PK/TRV715)
R916	1-218-881-11	RES,CHIP	27K	0.50%	1/16W (EXCEPT TRV75/TRV75PK/TRV715)
R917	1-218-891-11	RES,CHIP	68K	0.50%	1/16W (TRV75/TRV75PK/TRV715)
R917	1-218-893-11	RES,CHIP	82K	0.50%	1/16W (EXCEPT TRV75/TRV75PK/TRV715)
R918	1-216-829-11	METAL CHIP	4.7K	5%	1/16W

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R919	1-216-843-11	METAL CHIP 68K 5% 1/16W (EXCEPT TRV75/TRV75PK/TRV715)		367	1-668-958-11	FP-622 FLEXIBLE BOARD	
R920	1-216-837-11	METAL CHIP 22K 5% 1/16W		408	1-694-384-11	TERMINAL BOARD, BATTERYE	
R921	1-216-795-11	RES,CHIP 6.8 5% 1/16W		410	1-668-959-11	FP-623 FLEXBLE BOARD	
R922	1-216-847-11	METAL CHIP 150K 5% 1/16W		414	1-758-084-21	FILTER BLOCK, OPTICAL (EXCEPT TRV3E/TRV13E/TRV23E)	
R923	1-216-857-11	METAL CHIP 1M 5% 1/16W		414	1-758-133-21	FILTER BLOCK, OPTICAL (TRV3E/TRV13E/TRV23E)	
R924	1-216-862-11	RES,CHIP 2.7M 5% 1/16W		451	8-848-722-01	DEVICE, LENS LSV-600A(SOC) (EXCEPT TRV3E/TRV13E)	
R925	1-216-862-11	RES,CHIP 2.7M 5% 1/16W		451	8-848-724-01	DEVICE, LENS LSV-601A(SOC) (TRV3E/TRV13E)	
R926	1-216-821-11	METAL CHIP 1K 5% 1/16W		760	1-658-213-11	FP-355 FLEXIBLE BOARD	
R927	1-216-821-11	METAL CHIP 1K 5% 1/16W		762	1-657-786-13	FP-221 FLEXIBLE BOARD	
R928	1-216-827-11	METAL CHIP 3.3K 5% 1/16W		764	1-658-214-11	FP-356 FLEXIBLE BOARD	
R929	1-216-818-11	METAL CHIP 560 5% 1/16W		803	1-657-785-11	FP-248 FLEXIBLE BOARD	
		< VARIABLE RESISTOR >		817	1-657-784-11	FP-220 FLEXIBLE BOARD	
RV903	1-238-852-11	RES, ADJ, CERMET 470		D001	8-719-988-42	DIODE GL453	
RV904	1-223-566-11	RES, ADJ, METAL GLAZE 1M		IC401	A-7030-865-A	CCD BLOCK ASSY (209 SERVICE) (CCD IMAGER) (TRV75/TRV75PK/TRV715)	
		< TRANSFORMER >		IC401	A-7030-871-A	CCD BLOCK ASSY (211 SERVICE) (CCD IMAGER) (TRV45E/TRV55E/TRV65E/TRV69E)	
△ T901	1-453-124-11	TRANSFORMER ASSY, FLYBACK		IC401	A-7030-874-A	CCD BLOCK ASSY (207 SERVICE) (CCD IMAGER) (TRV3E/TRV13E/TRV23E)	
		< THERMISTOR >		J001	1-565-276-31	JACK, ULTRA SMALL 1P (LANC)	
TH901	1-809-350-21	THERMISTOR, NTC (2125)		LCD901	1-803-038-11	INDICATOR MODULE, LIQUID CRYST (TRV55E:E1,HK,CN)	
		< FLEXIBLE BOARD >		LCD901	1-803-038-21	INDICATOR MODULE, LIQUID CRYST (TRV45E/TRV55E:EE2,JE)	
△ W901	1-540-019-21	SOCKET ASSY, CRT		LCD901	1-803-037-21	INDICATOR MODULE, LIQUID CRYST (TRV75/TRV75PK/TRV715)	
MISCELLANEOUS *****				LCD901	1-803-035-21	INDICATOR MODULE, LIQUID CRYST (TRV23E)	
10	1-475-619-21	SWITCH BLOCK, CONTROL (SS-8500) (TRV55E)		LCD901	1-803-036-21	INDICATOR MODULE, LIQUID CRYST (TRV65E/TRV69E)	
10	1-475-619-11	SWITCH BLOCK, CONTROL (SS-8500) (EXCEPT TRV55E)		LCD901	1-803-040-21	INDICATOR MODULE, LIQUID CRYST (TRV3E/TRV13E)	
14	1-475-617-11	SWITCH BLOCK, CONTROL (FK-8500) (TRV3ETRV13E)		M901	A-7048-851-A	DRUM ASSY (DGH-0D5A-R)(PAL) (EXCEPT TRV75/TRV75PK/TRV715)	
14	1-475-617-31	SWITCH BLOCK, CONTROL (FK-8500) (TRV23E/TRV65E/TRV69E)		M901	A-7048-842-A	DRUM ASSY (DGH-0E1A-R)(NTSC)(5HEAD) (TRV75/TRV75PK/TRV715)	
14	1-475-618-21	SWITCH BLOCK, CONTROL (FK-8500) (TRV45E/TRV55E)		M902	8-835-531-32	CAPSTAN ASSY	
14	1-475-618-41	SWITCH BLOCK, CONTROL (FK-8500) (TRV75/TRV75PK/TRV715)		M903	X-3945-401-1	MOTOR ASSY, DC (LOADING)	
104	1-475-621-11	SWITCH BLOCK, CONTROL (MR-8500) (TRV45E/TRV55E/TRV75/TRV75PK/TRV715)		M905	1-763-047-11	MOTOR, FOCUS STEPPING	
114	1-783-240-11	CABLE, FLEXIBLE FLAT (FFC-236)		M906	1-763-046-11	MOTOR, ZOOM STEPPING	
154	1-475-620-11	SWITCH BLOCK,CONTROL (MF-8500) (TRV3E/TRV13E/TRV23E/TRV65E/TRV69E)		MIC901	1-542-312-11	MICROPHONE (L-CH)	
164	1-783-240-11	CABLE, FLEXIBLE FLAT (FFC-236)		MIC902	1-542-312-11	MICROPHONE (R-CH) (EXCEPT TRV3E/TRV13E/TRV23E)	
208	1-668-963-41	FP-642FLEXBLE BOARD		△ ND801	1-517-753-11	TUBE, FLUORESCENT,COLD CATHODE (TRV75/TRV75PK/TRV715)	
209	1-958-332-11	HARNESS (DP-71) (TRV45E/TRV55E/TRV75/TRV75PK/TRV715)		△ ND801	1-517-754-11	TUBE, FLUORESCENT,COLD CATHODE (TRV45E/TRV55E)	
258	1-668-963-11	FP-642 FLEXIBLE BOARD		△ ND801	1-517-751-11	TUBE, FLUORESCENT,COLD CATHODE (TRV3E/TRV13E)	
259	1-958-379-11	HARNESS (DP-70) (TRV3E/TRV13E/TRV23E/TRV65E/TRV69E)		△ ND801	1-517-752-11	TUBE, FLUORESCENT,COLD CATHODE (TRV23E)	
308	1-783-241-11	CABLE,FLEXIBLE FLAT (FFC-235)		△ ND801	1-517-752-21	TUBE, FLUORESCENT,COLD CATHODE (TRV65E/TRV69E)	
352	1-668-957-11	FP-621 FLEXBLBOARD		△ ND802	1-517-759-11	LIGHT, BACK	
357	1-668-956-11	FP-620 FLEXIBLE BOARD		S001	1-692-614-11	SWITCH, PUSH (3 KEY) (Hi8 MP, ME/MP, REC PROOF)	
358	1-668-960-11	FP-629 FLEXIBLE BOARD		S002	1-572-688-11	SWITCH, PUSH (1 KEY)(C.C. LOCK)	
363	1-774-867-31	CONNECTOR,EXTERNAL(HOT SHOE)8P (EXCEPT TRV3E/TRV13E/TRV23E)		S003	1-572-688-11	SWITCH, PUSH (1 KEY) (EJECT)	
364	1-668-978-11	FP-633 FLEXIBLE BOARD (EXCEPT TRV3E/TRV13E/TRV23E)		The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.			Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
S901	1-762-436-15	SWITCH, ROTARY (ENCODER)	
SE451	1-803-041-31	SENSOR, ANGULAR VELOCITY (YAW) (EXCEPT TRV3E/TRV13E/TRV23E)	
SE452	1-803-041-41	SENSOR, ANGULAR VELOCITY (PITCH) (EXCEPT TRV3E/TRV13E/TRV23E)	
SP901	1-504-753-41	SPEAKER (2.8CM) (TRV45E/TRV55E/TRV75/TRV75PK/TRV715)	
SP901	1-505-291-11	SPEAKER (DIA 2.8CM) (TRV3E/TRV13E/TRV23E/TRV65E/TRV69E)	
△ V901	1-452-673-31	CRT ASSY (M01KXX90WB)	
ACCESSORIES MATERIALS			

	1-467-574-21	REMOTE, COMMANDER (RMT-708) (EXCEPT TRV69E)	
△	1-475-599-11	ADAPTOR, AC (AC-L10)	
△	1-569-008-11	ADAPTOR, CONVERSION 2P (TRV3E:HK/TRV23E:E, HK/TRV45E:E, HK/TRV55E:E, HK/TRV75E:TRV75PK)	
△	1-573-856-11	ADAPTOR, CONVERSION 2P (TRV3E:JE/TRV55E:JE/TRV75E:JE)	
	1-574-039-21	CORD, CONNECTION (A/V connecting cable (Monaural), 1.5m) (TRV3E/TRV13E/TRV23E)	
△	1-575-131-11	CORD, POWER (TRV3E:E/TRV13E:AEP,EE,NE,RU/TRV23E:E/TRV45E:E/TRV55E:E1/ TRV65E:AEP,EE,NE,RU/TRV69E/TRV75E:TRV75PK)	
	1-575-334-11	CORD, CONNECTION (A/V connecting cable (Stereo), 1.5m) (EXCEPT TRV3E/TRV13E/TRV23E)	
△	1-696-819-11	CORD, POWER (TRV23E:AUS)	
△	1-696-819-21	CORD, POWER (TRV3E:AUS/TRV45E:AUS)	
	1-764-622-11	ADAPTOR, CONVERSION 21 Pin adaptor (VMC-89) (TRV13E)	
	1-770-783-11	CONNECTOR, CONVERSION 21Pin adaptor (VMC-91)(TRV65E/TRV69E)	
△	1-769-322-11	CORD, POWER 2P (TRV55E:JE)	
△	1-775-549-21	CORD, POWER (TRV75:US,CND/TRV715)	
△	1-782-476-11	CORD, POWER (TRV3E:CN/TRV55E:CN)	
△	1-783-374-11	CORD, POWER (TRV3E:HK/TRV13E:UK/ TRV23E:HK/TRV45E:HK/TRV55E:HK/TRV65E:UK)	
	3-861-891-11	MANUAL (3), INSTRUCTION (ENGLISH) (TRV75:US,CND/TRV715)	
	3-861-891-21	MANUAL(3),INSTRUCTION(FRENCH) (TRV75:CND/TRV715:CND)	
	3-861-891-31	MANUAL (3), INSTRUCTION (ENGLISH) (TRV75E:TRV75PK)	
	3-861-891-41	MANUAL(3),INSTRUCTION (SPANISH,PORTUGUESE)(TRV75E:TRV75PK)	
	3-861-891-51	MANUAL (3), INSTRUCTION (CHINESE) (TRV75E:TRV75PK)	
	3-861-891-61	MANUAL (3), INSTRUCTION (KOREAN) (TRV75:JE)	
	3-861-892-11	MANUAL(3),INSTRUCTION (ENGLISH,RUSSIAN)(TRV45E/TRV55E)	
	3-861-892-21	MANUAL(3),INSTRUCTION (FRENCH,GERMAN)(TRV45E:E, HK/TRV55E)	
	3-861-892-31	MANUAL(3),INSTRUCTION (ARABIC,PERSIAN)(TRV45E:E/TRV55E:E,CN)	
	3-861-892-41	MANUAL (3), INSTRUCTION (CHINESE) (TRV45E:E,CN/TRV55E:HK)	

Ref. No.	Part No.	Description	Remark
	3-861-892-51	MANUAL (3), INSTRUCTION (CHINESE) (TRV45E:E/TRV55E:E,CN,JE)	
	3-861-902-11	MANUAL,INSTRUCTION (ENGLISH,RUSSIAN) (TRV13E:EE,NE,RU,UK/TRV65E:EE,NE,RU,UK/TRV69E)	
	3-861-902-21	MANUAL, INSTRUCTION (SPANISH,PORTUGUESE) (TRV13E:AEP1/TRV65E:AEP1/TRV69E)	
	3-861-902-31	MANUAL, INSTRUCTION (GERMAN,ITALIAN) (TRV13E:AEP/TRV65E:AEP/TRV69E)	
	3-861-902-41	MANUAL, INSTRUCTION (FRENCH,DUTCH) (TRV13E:AEP2/TRV65E:AEP2/TRV69E)	
	3-861-902-51	MANUAL,INSTRUCTION (SWEDISH,POLISH) (TRV13E:EE/TRV65E:EE)	
	3-861-903-11	MANUAL, INSTRUCTION (ENGLISH,RUSSIAN) (TRV3E/TRV23E)	
	3-861-903-21	MANUAL, INSTRUCTION (FRENCH,GERMAN) (TRV3E:E, HK,CN/TRV23E:E, HK)	
	3-861-903-31	MANUAL, INSTRUCTION (ARABIC,PERSIAN) (TRV3E:E,CN/TRV23E:E)	
	3-861-903-41	MANUAL, INSTRUCTION (CHINESE) (TRV3E:HK/TRV23E:HK)	
	3-861-903-51	MANUAL, INSTRUCTION(CHINESE) (TRV3E:E,CN/TRV23E:E)	
	3-971-463-01	LABEL, FIRE CAUTION DISCERN (TRV75:US)	
	3-947-969-21	BELT (S), SHOULDER	
	3-988-960-01	BAG, CARRY (TRV75PK)	
	8-917-593-90	REMOTE COMMANDER (RMT-717) (TRV69E)	
	A-7092-699-A	CASE (L) ASSY, BATTERY (TRV75:CND)	
	A-7092-936-A	CASE (L) ASSY (U), BATTERY (TRV75:US)	
	NP-F330	BATTERY PACK	
Note.			
** MARKPARTSIS AVAILABLE AS AN OPTIONAL ACCESSORY.			

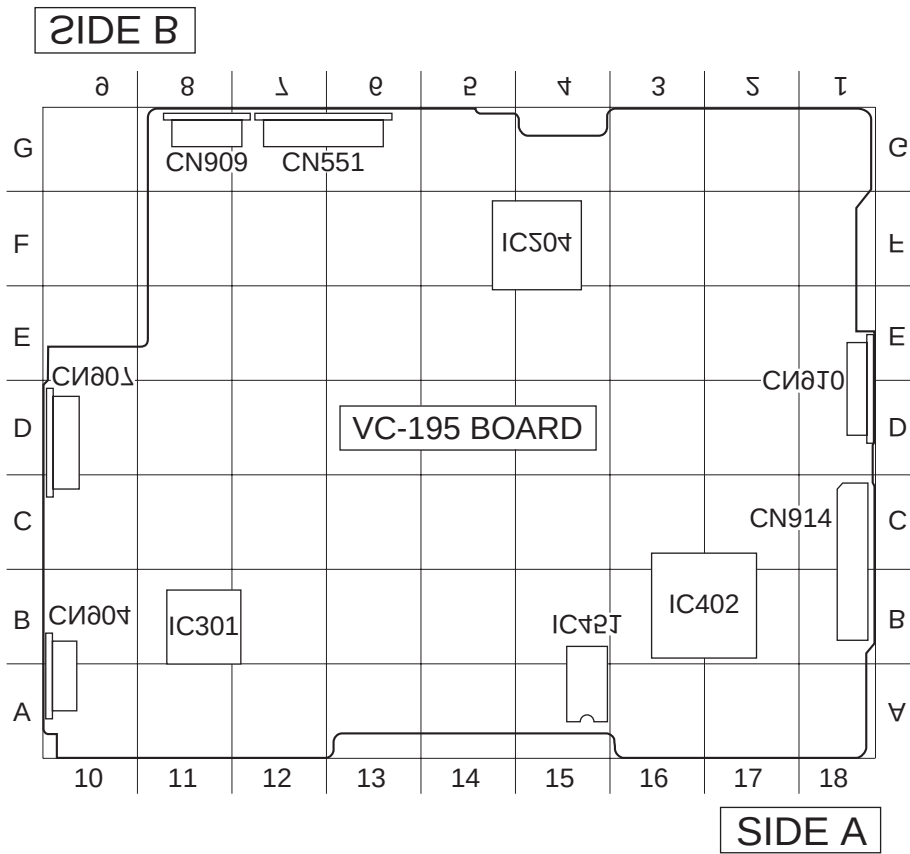
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

< PARTS REFERENCE SHEET >

Take a copy CAMERA COLOR REPRODUCTION FRAME
and Parts reference sheets with a clear sheet for use.

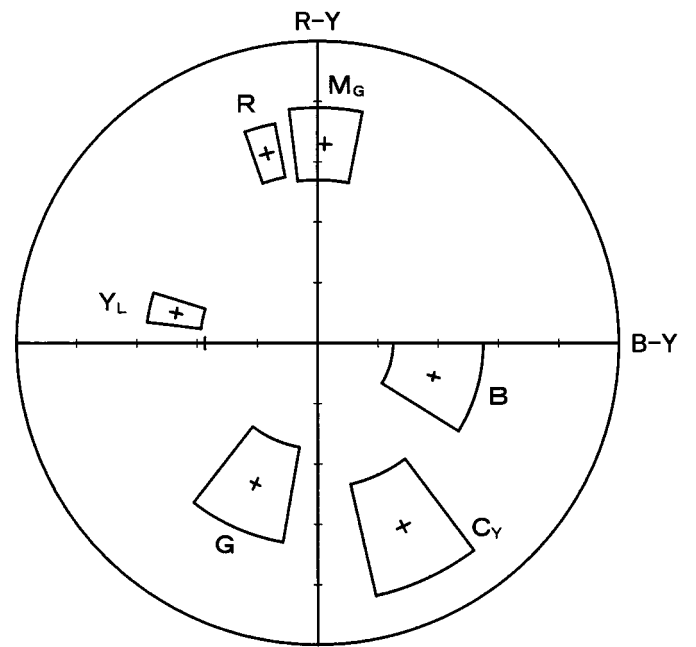
You can find the parts position of mount locations applying to boards
of a set.



FOR CAMERA COLOR REPRODUCTION ADJUSTMENT

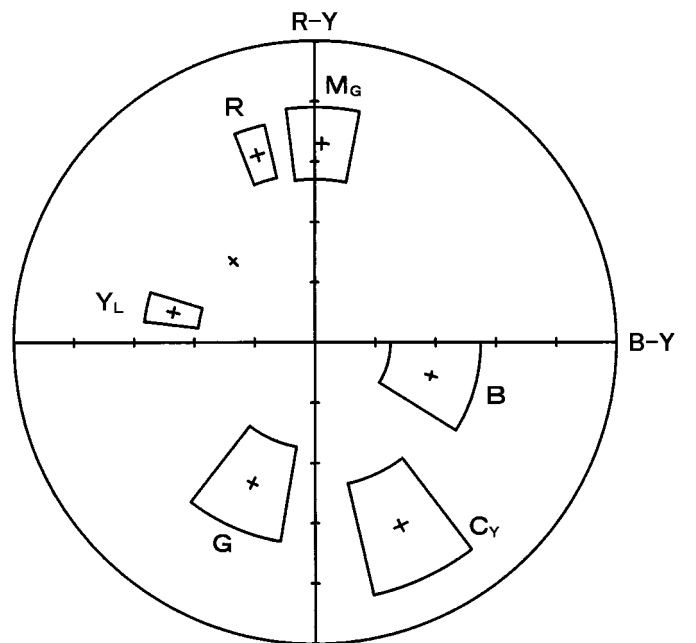
Take a copy CAMERA COLOR REPRODUCTION FRAME and Parts reference sheets with a clear sheet for use.

For NTSC 760H model



CCD-TRV75/TRV75PK/TRV715

For PAL 510H, 760H model



CCD-TRV3E/TRV13E/TRV23E/TRV45E/
TRV55E/TRV65E/TRV69E

**CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/TRV65E/
TRV69E/TRV75/TRV75PK/TRV715**

CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/ TRV65E/TRV69E/TRV75/TRV75PK/TRV715 RMT-708/717

SONY

SERVICE MANUAL

1998.11

*US Model
Canadian Model
CCD-TRV75/TRV715*

*E Model
CCD-TRV3E/TRV23E/TRV45E/
TRV55E/TRV75/TRV75PK*

*AEP Model
CCD-TRV13E/TRV65E/TRV69E*

*UK Model
East European Model
North European Model
Russian Model
CCD-TRV13E/TRV65E*

*Hong Kong Model
CCD-TRV3E/TRV23E/TRV45E/TRV55E*

*Tourist Model
CCD-TRV3E/TRV55E/TRV75*

*Australian Model
CCD-TRV3E/TRV23E/TRV45E*

*Chinese Model
CCD-TRV3E/TRV23E/TRV45E/
TRV55E/TRV65E*

SUPPLEMENT-1

File this supplement-1 with your Service manual.

**ADDITIONAL OF THE REPAIR PARTS LIST
(CCD-TRV65E:AEP,UK,EE,NE,RU/TRV69E)
CORRECTION OF THE REFERENCE NO.
(ALL MODELS)...Battery panel portion**

(EV803502)
(EV803520)
(EV803522)

Page 6-1

SECTION 6 REPAIR PARTS LIST

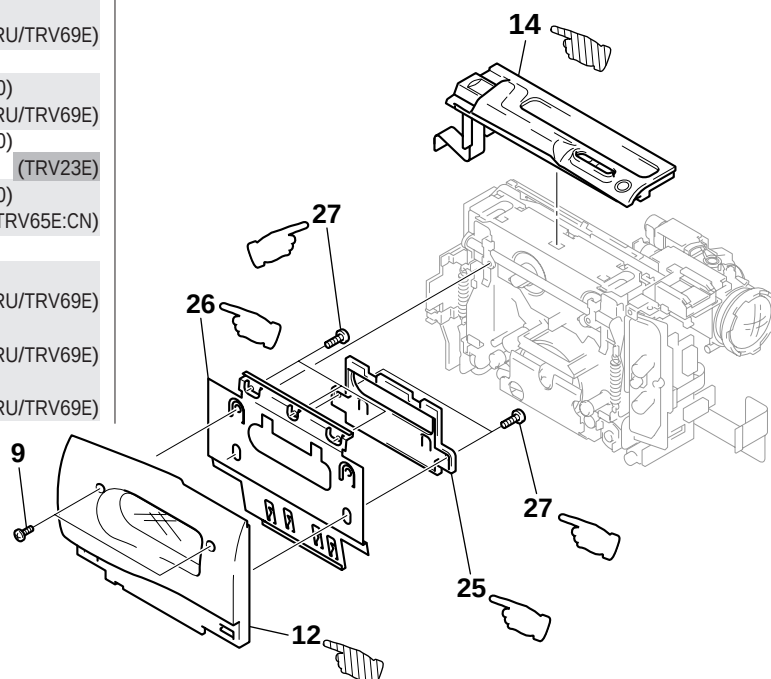
6-1. EXPLODED VIEW

6-1-1. CABINET (L) BLOCK ASSEMBLY

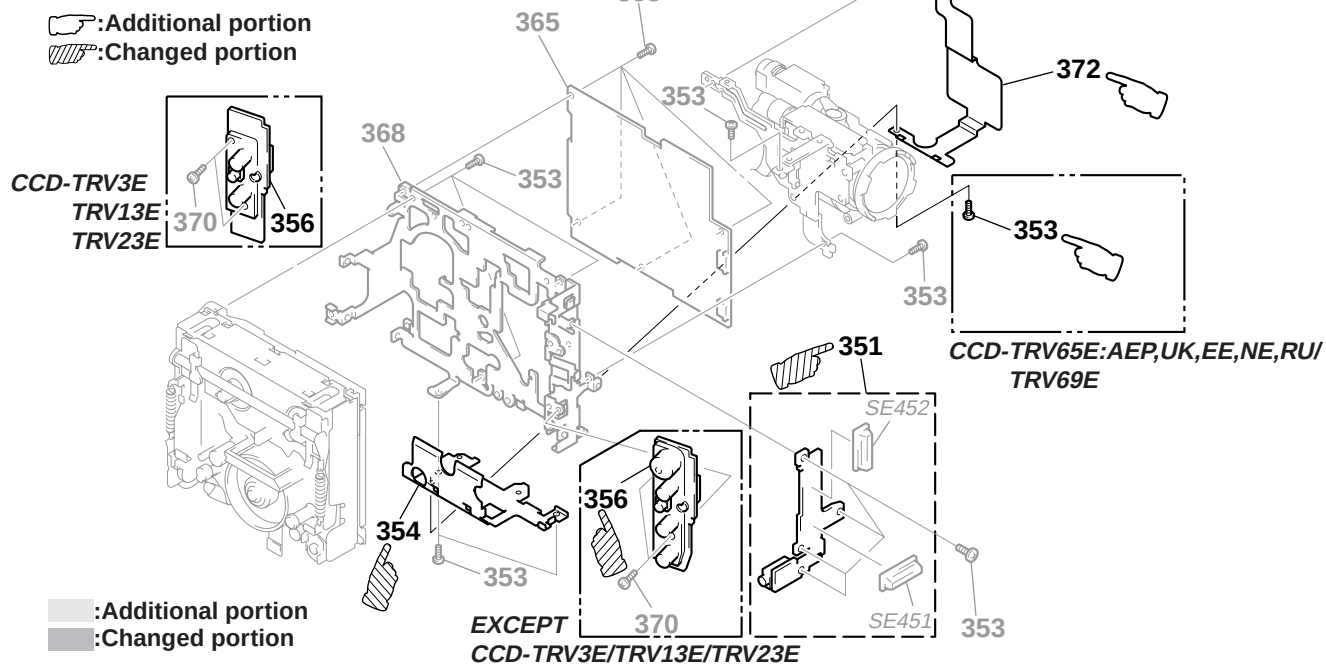
Ref. No.	Part No.	Description	Remark
9	3-713-729-01	SCREW (M2), LOCK ACE, P2	
12	X-3948-222-1	LID ASSY, CASSETTE (TRV65E:CN)	
12	X-3949-147-1	LID ASSY, CASSETTE (TRV65E:AEP,UK,EE,NE,RU/TRV69E)	
14	1-418-215-41	SWITCH BLOCK, CONTROL (FK-8500) (TRV65E:AEP,UK,EE,NE,RU/TRV69E)	
14	1-475-617-31	SWITCH BLOCK, CONTROL (FK-8500) (TRV23E)	
14	1-475-617-61	SWITCH BLOCK, CONTROL (FK-8500) (TRV65E:CN)	
25	3-987-677-01	COVER (C), FERRITE (TRV65E:AEP,UK,EE,NE,RU/TRV69E)	
26	3-987-678-01	SHIELD PLATE, CASSETTE (TRV65E:AEP,UK,EE,NE,RU/TRV69E)	
27	3-713-791-51	SCREW (M1.7 x 3.5), TAPPING, P2 (TRV65E:AEP,UK,EE,NE,RU/TRV69E)	

□:Additional portion
■:Changed portion

□:Additional portion
▨:Changed portion



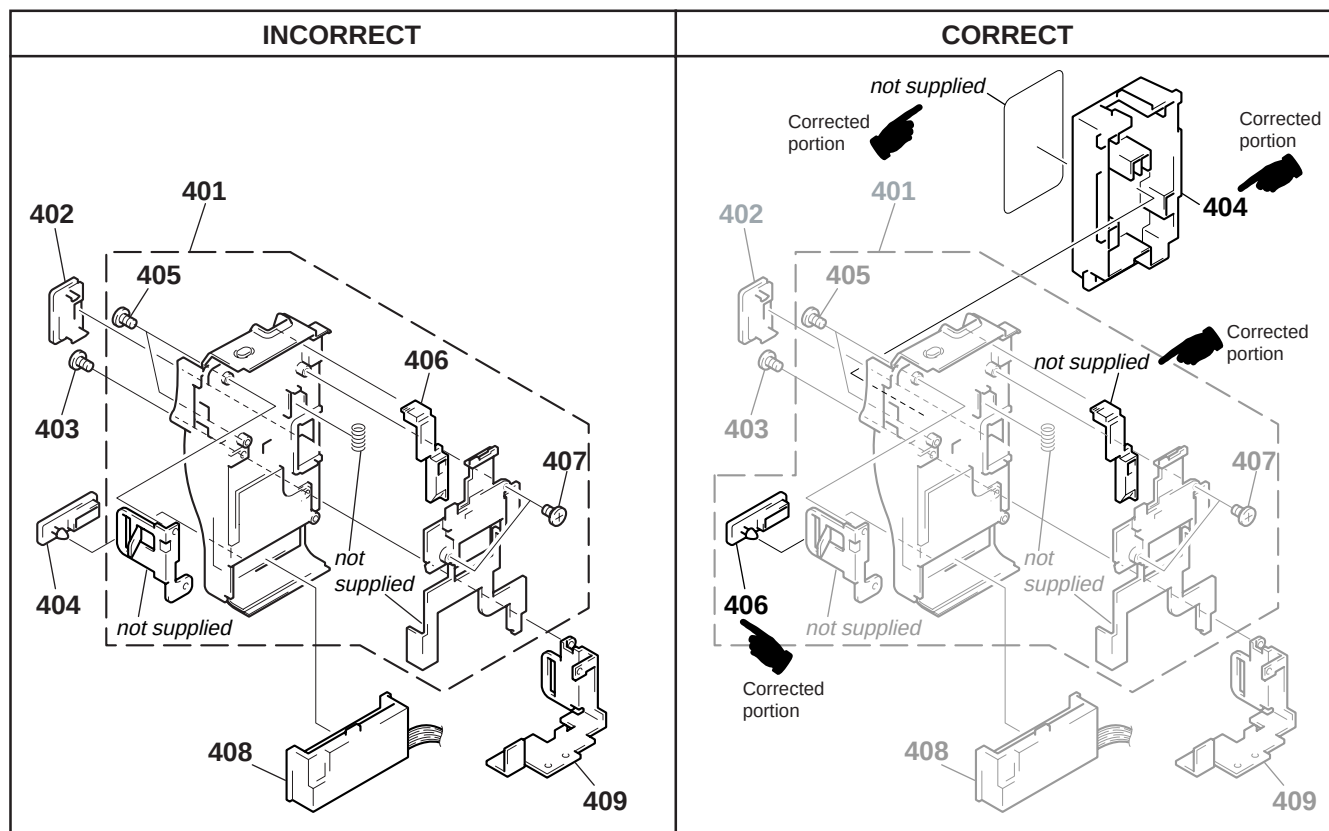
6-1-8. MAIN BOARDS ASSEMBLY



Ref. No.	Part No.	Description	Remark
351	A-7073-404-A	SE-66 (V) BOARD, COMPLETE (TRV23E)	
351	A-7073-757-A	SE-66 (CEE-V) BOARD, COMPLETE (TRV3E/TRV13E)	
351	A-7073-759-A	SE-66 (CEE-VH) BOARD, COMPLETE (TRV65E/TRV69E)	
353	3-713-786-21	SCREW (M2 x 3)	
* 354	3-987-675-01	FRAME (B), MD (EXCEPT TRV65E: AEP, UK, EE, NE, RU/TRV69E/TRV75/TRV75PK/TRV715)	

Ref. No.	Part No.	Description	Remark
354	3-987-675-11	FRAME (B), MD (TRV65E: AEP, UK, EE, NE, RU/TRV69E)	
356	A-7073-405-A	PJ-83 (M) BOARD, COMPLETE (TRV23E)	
356	A-7073-756-A	PJ-83 (CEE-M) BOARD, COMPLETE (TRV3E/TRV13E)	
356	A-7073-758-A	PJ-83 (CEE-H) BOARD, COMPLETE (TRV65E/TRV69E)	
372	X-3949-183-1	SHIELD PLATE ASSY, RP (TRV65E: AEP, UK, EE, NE, RU/TRV69E)	

6-1-9. BATTERY PANEL AND CCD BLOCK ASSEMBLY



Additional portion
Changed portion

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6-2. ELECTRICAL PARTS LIST

PJ-83 BOARD

Ref. No.	Part No.	Description	Remark
	A-7073-405-A	PJ-83 (M) BOARD, COMPLETE (TRV23E)	

	A-7073-756-A	PJ-83 (CEE-M) BOARD, COMPLETE (TRV3E/TRV13E)	

	A-7073-758-A	PJ-83 (CEE-H) BOARD, COMPLETE (TRV65E/TRV69E)	

(Ref. No. 4,000 series)			
< CAPACITOR >			
C101	1-110-569-11	TANTAL. CHIP 47uF 20% 6.3V (EXCEPT TRV3E/TRV13E/TRV23E/TRV65E/TRV69E)	
C101	1-104-852-11	TANTAL. CHIP 22uF 20% 6.3V (TRV3E/TRV13E/TRV23E/TRV65E/TRV69E)	
C103	1-162-964-11	CERAMIC CHIP 0.001uF 20% 50V (TRV3E/TRV13E/TRV65E/TRV69E)	
C104	1-162-964-11	CERAMIC CHIP 0.001uF 20% 50V (TRV3E/TRV13E/TRV65E/TRV69E)	
C105	1-162-964-11	CERAMIC CHIP 0.001uF 20% 50V (TRV65E/TRV69E)	
C106	1-162-964-11	CERAMIC CHIP 0.001uF 20% 50V (TRV65E/TRV69E)	
C107	1-162-964-11	CERAMIC CHIP 0.001uF 20% 50V (TRV65E/TRV69E)	
C108	1-162-964-11	CERAMIC CHIP 0.001uF 20% 50V (TRV65E/TRV69E)	
< COIL >			
L102	1-216-295-91	SHORT 0 (EXCEPT TRV3E/TRV13E/TRV65E/TRV69E)	
L102	1-412-963-11	INDUCTOR 100uH (TRV3E/TRV13E/TRV65E/TRV69E)	
L103	1-216-295-91	SHORT 0 (EXCEPT TRV3E/TRV13E/TRV23E/TRV65E/TRV69E)	
L103	1-412-963-11	INDUCTOR 100uH (TRV65E/TRV69E)	
L104	1-216-295-91	SHORT 0 (EXCEPT TRV3E/TRV13E/TRV23E/TRV65E/TRV69E)	
L104	1-412-963-11	INDUCTOR 100uH (TRV65E/TRV69E)	

Additional portion
Changed portion

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SE-66 BOARD

Ref. No.	Part No.	Description	Remark
	A-7073-404-A	SE-66(V) BOARD, COMPLETE (TRV23E)	

	A-7073-757-A	SE-66(CEE-V) BOARD, COMPLETE (TRV3E/TRV13E)	

	A-7073-759-A	SE-66(CEE-VH) BOARD, COMPLETE (TRV65E/TRV69E)	

(Ref. No. 4,000 series)			
< CAPACITOR >			
C467	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (TRV3E/TRV13E/TRV65E/TRV69E)	
C468	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (TRV3E/TRV13E/TRV65E/TRV69E)	
C469	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (TRV65E/TRV69E)	
C470	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (TRV65E/TRV69E)	
< COIL >			
L453	1-216-295-91	SHORT 0 (EXCEPT TRV3E/TRV13E/TRV65E/TRV69E)	
L453	1-412-963-11	INDUCTOR 100uH (TRV3E/TRV13E/TRV65E/TRV69E)	
L454	1-216-295-91	SHORT 0 (TRV45E/TRV55E/TRV75E/TRV75PK/TRV715)	
L454	1-412-963-11	INDUCTOR 100uH (TRV65E/TRV69E)	

Additional portion
Changed portion

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MISCELLANEOUS

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS *****	
14	1-418-215-41	SWITCH BLOCK, CONTROL (FK-8500) (TRV65E:AEP,UK,EE,NE,RU/TRV69E)	
14	1-475-617-31	SWITCH BLOCK, CONTROL (FK-8500) (TRV23E)	
14	1-475-617-61	SWITCH BLOCK, CONTROL (FK-8500) (TRV65E:CN)	

The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Page 4-53

Page 6-40E

ACCESSORIES MATERIALS

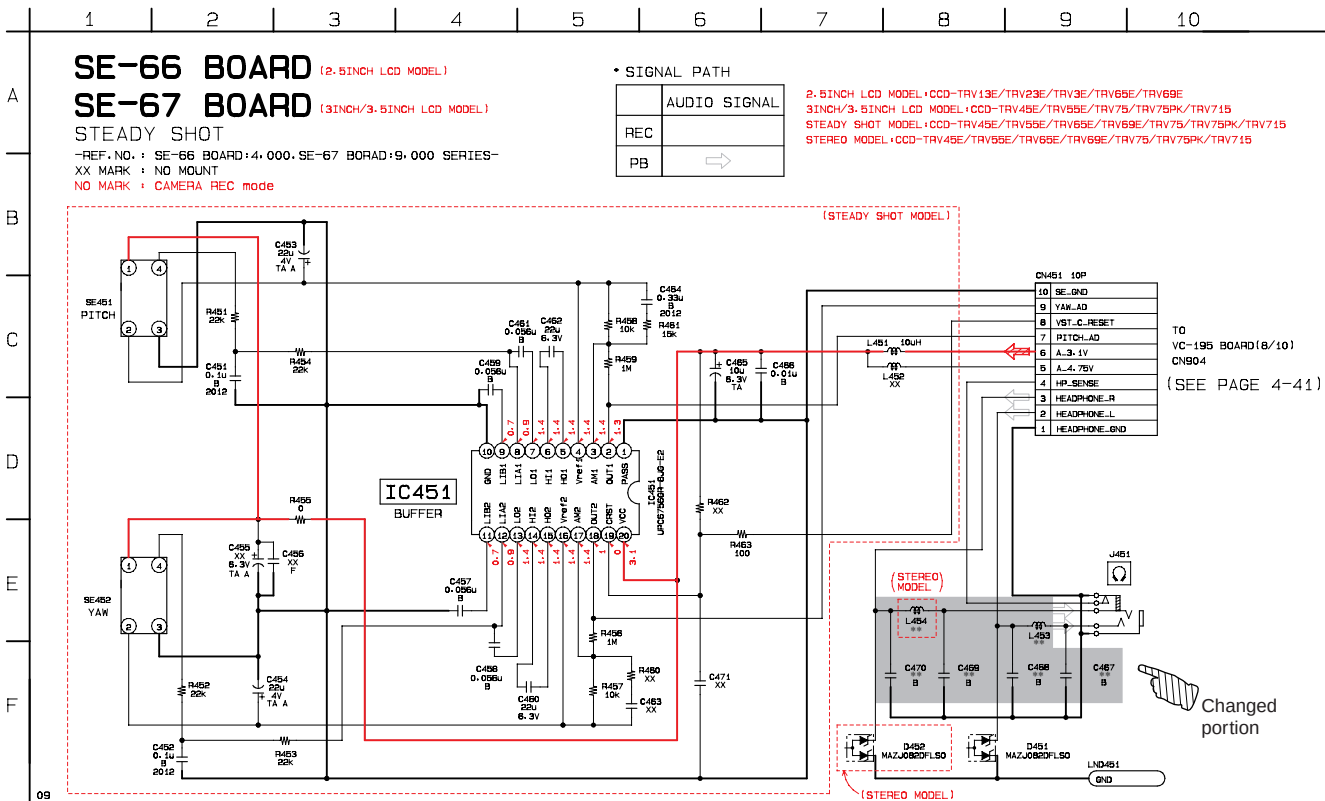
Ref. No.	Part No.	Description	Remark
		ACCESSORIES MATERIALS *****	
Δ	1-575-131-11	CORD, POWER (TRV3E:E/TRV23E:E/TRV45E:E/TRV55E:E/TRV75E:TRV75PK)	
Δ	1-690-827-11	CORD, SET-POWER (With FILTER) (TRV13E:AEP,EE,NE,RU/TRV65E:AEP,EE,NE,RU/TRV69E)	
Δ	1-775-843-21	CORD, POWER (With FILTER) (TRV13E:UK/TRV65E:UK)	
Δ	1-782-476-11	CORD, POWER (TRV3E:CN/TRV23E:CN/TRV45E:CN/TRV55E:CN/TRV65E:CN)	
Δ	1-783-374-11	CORD, POWER (TRV3E:HK/TRV23E:HK/TRV45E:HK/TRV55E:HK)	
Δ	1-790-073-11	CORD, POWER 2P (TRV3E:JE/TRV55E:JE/TRV75:JE)	
Δ	1-790-107-21	CORD, POWER (TRV75/TRV715)	

SECTION 4

PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

SE-66/67 (STEADY SHOT) (2.5 INCH LCD, 3 INCH/3.5 INCH LCD MODEL) PRINTED WIRING BOARD



DIFFERENCE TABLE OF ** SECTION

SE-66 BOARD

A-7073-404-A TRV23E

A-7073-757-A TRV3E/TRV13E

A-7073-759-A TRV65E/TRV69E

SE-67 BOARD

A-7073-434-A TRV45E/TRV55E/TRV45E
TRV55E/TRV75/TRV75PK
TRV715

	A-7073-404-A SE-66 (V) BOARD	A-7073-757-A SE-66 (CEE-V) BOARD	A-7073-759-A SE-66 (CEE-VH) BOARD	A-7073-434-A SE-67 (VH) BOARD
C467	—	0.001 μ F	0.001 μ F	—
C468	—	0.001 μ F	0.001 μ F	—
C469	—	—	0.001 μ F	—
C470	—	—	0.001 μ F	—
L453	0 μ H	100 μ H	100 μ H	0 μ H
L454	—	—	100 μ H	0 μ H

	A-7073-405-A PJ-83 (M) BOARD	A-7073-756-A PJ-83 (CEE-M) BOARD	A-7073-758-A PJ-83 (CEE-H) BOARD	A-7073-433-A PJ-84 (S) BOARD	A-7073-477-A PJ-84 (H) BOARD
C101	22μF	22μF	22μF	47μF	47μF
C103	—	0.001μF	0.001μF	—	—
C104	—	0.001μF	0.001μF	—	—
C105	—	—	0.001μF	—	—
C106	—	—	0.001μF	—	—
C107	—	—	0.001μF	—	—
C108	—	—	0.001μF	—	—
L102	0μH	100μH	100μH	0μH	0μH
L103	—	—	100μH	0μH	0μH
L104	—	—	100μH	0μH	0μH

**CCD-TRV3E/TRV13E/TRV23E/TRV45E/TRV55E/TRV65E/
TRV69E/TRV75E/TRV75PK/TRV715**